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FACTS AND OBSERVATIONS
RELATIVE TO
SHEEP, WOOL, PLOUGHS,
AND
OXEN:
IN WHICH
THE IMPORTANCE OF IMPROVING
THE
SHORT-WOOLED BREEDS OF SHEEP,
BY
A MIXTURE
OF THE
MERINO BLOOD,
IS DEMONSTRATED FROM ACTUAL PRACTICE:

TOGETHER WITH
SOME REMARKS
ON THE ADVANTAGES WHICH HAVE BEEN DERIVED TO
THE AUTHOR'S FLOCK,
FROM
THE USE OF SALT,
&c. &c. &c.

By JOHN LORD SOMERVILLE.

THIRD EDITION ENLARGED.

LONDON:
PRINTED FOR JOHN HARDING,
36, St. James's Street.

1809.

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PREFACE.

In offering a new edition of the following detached Essays on Husbandry, for so they must be denominated, it is to be observed, that the former editions have been sold nearly two years ago, and fresh applications having been made from country booksellers, a demand which a general attention to the practice of Rural Œconomy can only account for, the Author has yielded to the repeated application of the publisher. He has confined himself to facts which have come within the scope of his practice, and conclusions which must unavoidably arise from such facts.

He well knows, that those who devote themselves to the practical part of Husbandry, are so absorbed in the matter, as sometimes to be careless in the manner of stating what occurs; nor indeed is this

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to be wondered at, when the reader for a moment considers the boundless field which presents itself, the time and attention it demands, and, that those experiments which can only with safety be grounded on experience, are liable to such drawbacks, as variations in the seasons, different temperaments of the soils, and a thousand derangements and casualities, constantly present.

Confident of the fidelity of his own statements as far as they go, the Author ventures to contribute his mite towards the public information.

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SHEEP.

WITH a view to the improvement of our Short-Wool Sheep, and those more particularly belonging to our mountainous districts, hitherto neglected, I have thought it a duty incumbent on me to call the attention of my countrymen to this point, and have therefore ventured to publish a short essay on a subject which every man at all acquainted with rural or political economy, must admit to be of the utmost importance both to our landed and commercial interests.

Assertions are to the utmost avoided, and conclusions are hinted at, which a close attention to the various breeds of our sheep, and the operation of our soil and climate on them, might with safety warrant.

The political situation of Spain may be such as to shut out, or at least materially increase, the present difficulty of importing her wools into this country; in which case, it is a matter of the utmost national importance, that the fine-woollen trade of Great Britain should suffer nothing in reputation. That this is speedily to be effected, I have no doubt ; indeed the patterns now before my eyes so absolutely prove the fact, that as an individual, bound in a particular manner to support the agricultural produce of my own country, I am resolved never again to wear superfine cloth, or kerseymere, any part of which shall be of foreign growth.

The breeds of sheep in this kingdom may be arranged into two classes; those which shear the short or clothing, and those which shear the long, or combing Wool; of the former we have specimens in the South Down, Hereford, and Norfolk breeds, and of the latter in the Lincoln and Leicester. The quality of the flesh in each class, follows the character of the wool; the short-woolled sheep being close in the grain as to flesh, consequently heavy in the scale, and high-flavoured as to the taste; the polled, long-woolled sheep, more open and loose in the grain, larger in size, "manufacturer's mutton," fit for such markets, as supply collieries and shipping, but by no means, generally speaking, of such ready sale.

Every practical man, looking over the map of England, who has given himself time to study the properties of its soil and climate, will admit, that one half the kingdom at least, is by nature appropriated to the short-woolled, fine-grained breed. He might with safety admit much more than half; for it at length appears, that our climate, from the most northern parts to the most southern, can grow wool of the finest possible quality. Taking into consideration the upland pastures, the light convertible tillage, the loamy soils, and mountainous districts of the kingdom, such a proportion must be admitted to be moderate and just. But notwithstanding the great importance of the short-woolled sheep to the nation, the whole attention, both of farmers and breeders, has for these thirty years past been absorbed in carrying to a degree of perfection hardly credible, the heavy, long-woolled sheep; such as Lincoln, Cotswould, Romney Marsh, and new Leicester, but more particularly the last.

To such extreme perfection has the frame of this animal been carried, that one is lost in admiration at the skill and good fortune of those who worked out such an alteration. It should seem, as if they had chalked out, on a wall, a form, perfect in itself, and then had given it existence. Nay, fresh technical terms have arisen to express points in these sheep, thirty years ago unknown: such as the "fore flank," and the "cushion," terms universally admitted.

Such is the animal now—almost the reverse of what it was; and from whatever source it originated, whether from the care and nice observation of breeders, or from crosses with Ryeland or Dorset flocks, is immaterial. Wherever land is deep and strong enough to bear long-woolled sheep, there let them be bred; but let them not be foisted by false arguments on land unable to maintain them; by doing so, the public is most essentially injured. Our combing and coarse wool-manufactures must be supplied, and therefore our strong land should be allotted to carry coarse, heavy sheep; but if, on the same false principle, one is to be pushed every where, to the exclusion of the other; I, for one, am old-fashioned enough to prefer clothes to carpets, a necessary to a luxury. If carpets are to be exported, well and good; they may perhaps pay as well as coarse woollens sent to South America, or elsewhere; but if carpets are to be consumed at home, as they have been for some years past, the manufacturer, indeed, is fed by what he earns; but for any addition to the national revenue, he may as well sit with his hands behind him, and at once be fed from the pocket of the richer classes: it is only receiving with one hand, and paying with the other; the nation will not be enriched; the same thing may be said of every article of luxury consumed at home. This is very unfashionable doctrine, without doubt; but it is too true. No desire of change, or love of innovation, led me to abandon the long-woolled sheep of my own neighbourhood, the Bampton breed dashed with the new Leicester; an undoubted improvement was visible from the introduction of the new Leicester; but there was a prejudice so strong among our butchers against the latter breed, that we were compelled to look to Bristol market for purchasers, at the distance of fifty miles from home. This stock continued to decrease in size considerably, in spite of all attempts, consistent with profit, to maintain it, notwithstanding fresh rams were three times brought from Leicestershire, in the twelve years these sheep were in my possession; the loss of size in each four years, amounted nearly to five pounds per quarter. It will naturally be asked, what sort of poor hungry soil this must have been, which could not maintain such sheep? It was the Vale of Taunton, proverbially known to be one of the most fertile spots in this kingdom, and much of the grass land, in which these sheep were depastured, was equal in strength to any in the vale; it stands valued at 2*l*. 15*s*. *per* acre.

A man must be blind who could withstand such evidence as this. Nature pointed out that the stock was too coarse in quality, or our climate unfit, it matters not which: the fact was plainly marked, and it was merely an act of common prudence to follow her dictates.

How many thousands, how many tens of thousands of acres are there in Great Britain, which stand exactly in the same predicament! These sheep were sold; and the same land, which carried forty-five breeding ewes, was immediately stocked with one hundred and fifty Ryelands in their stead. The neighbours said they would all be starved; the winter was severe, but the ewes maintained themselves moderately well, and their lambs, at weaning-time, were in the very best order. The ewes were depastured on the high lands, west of the Vale of Taunton, during the succeeding summer, at the rate of ten *per* acre, and came back into the Vale in good store state. One lot of these two-tooth sheep was bought by a farmer in the neighbourhood, and put in turnips; between Candlemas and Lady-day they were all killed; and on an average they turned out more pounds of rough fat than they were pounds *per* quarter. Land of the Vale of Taunton might have supported coarse-woolled sheep in size, had they been pushed in first year's grass, or buried in red clover up to their knees, and the refuse mown afterwards for hay; but this was buying a good thing too dear; it is not the size of individual sheep, but the quantity of good meat and wool *per* acre which must enrich the farmer, and feed the public; and we wish to impress him with the conviction, that no breeds of sheep should be carried into districts ill adapted, both as to soil and climate, to receive them; that, in exertion to improve the carcase, he should not forget there is such an article as wool; that, in opposition to modern doctrines, the improvement of the one is incompatible with the improvement of the other; and that the breed of sheep which, on any given quantity of land, carries for a continuance the most wool, as well as flesh, and both of the highest quality, is that breed to be preferred, of whatever description it may be, or from whatever country it may come.

It is to be lamented that we have been such slaves to size, and that the eye can hardly resist it. A medium is most desirable; but, if extremes are to be admitted, without a doubt the small sheep, fine in its grain, is a more marketable commodity. The rich will have it, because its quality is superior; in short, because it eats better; the poor man will find its joints more adapted to the strength of his purse; and the dearer meat is to be, the more this argument applies; for legs and shoulders of mutton cannot conveniently be cut, and retailed in pieces. There remains, then, but the manufacturer, the mechanic, and the middle class of housekeepers, to prefer coarse-grained meat. So we reasoned when we first sent this Ryeland mutton to market; but these were the very people who greedily bought it at a penny *per* pound advance in price, and that too in a manufacturing-district. But we are told, that sailors, colliers, and keelmen, are sure customers for these over-fat joints; so they are, and long may they enjoy them! Fresh meat is fresh meat to a man coming from sea; but if he stays long in harbour, and were once to break pale, and get a taste of better mutton, perhaps it would be no easy matter to bring him back again.

We are told, too, that coarse fat mutton is best for salting; mutton is not at all well suited to this purpose; beef and pork take salt better. If men are to be kept on salt meat, be it so; if they are to live on mutton, let that be good in quality. One of the first cutting butchers in London has often been heard to say, that he could not afford to buy fat coarse-grained sheep; for that, besides the loss in spine fat, which he was obliged to cut from roasting joints, there was not lean enough to support the fat, which therefore roasted away; and that so long as meat bears a better price than tallow, so long he must deal in South Downs, and sheep of that description.

We have said thus much, because false arguments are too often used to enforce adoption of heavy sheep, in districts ill suited to them.

In pursuance of the object stated in the commencement of this Essay, the improvement of the fleece of our Short-Woolled Sheep, the author, in the spring of 1802, made a voyage to Spain, for the purpose of bringing home a flock of Spanish sheep. This attempt is not easily accomplished at any time, but is more than commonly difficult in a time of war. It was an object, not only to attain the sheep themselves, but the whole system of management adopted by those who had the care of these flocks in Spain. In both these particulars, the author has been fortunate enough to succeed. The sheep were selected from a Trashumante, or travelling Merino flock, of undoubted high blood*. The rams, twelve in number, were picked from a flock of two hundred; for, except the Manso, or bell-wether, the males are left entire, on a presumption that they carry more wool than wethers, and equally fine. The couples (ewes and lambs) were selected from a number proportionably large. Of the high blood and quality of this flock, the admiration of those shepherds, through whose flocks, twenty-two in number, they passed in the course of their journey, about the end of March, was sufficiently indicative, if not otherwise established. Of their properties as to carcase, and, which is equally material, their power of living hard, so as to carry much wool and flesh on a small surface of land, it will be as well to draw a conclusion from fact, rather than from assertion. That must not be deemed a bad breed of sheep, which, after a trial of some centuries, can maintain its high quality of wool, making two immense annual journeys, and in a less space of time than could well be supposed, more especially when we recollect that the first journey commences when lambs are four months old, or even less. There are few breeds in this country that could support such periodical marches for any length of time, and not suffer materially in the form as well as quality of the carcase, for both are inseparable, being, as before observed, fed from the same sources.

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* The flocks bearing fine wool in Spain, are distinguished by the appellation of Trashumante; and so called from travelling from one end of the kingdom to the other; wintered in Estramadura, and other warm provinces; during the summer months they graze on the mountains of Castille, Leon, and Asturias. On the contrary, those flocks which are always stationary, are, for that reason, called Estante, and belong to the provinces of Estramadura, Molina, Cordova, and other districts.

Before any opinion is offered as to the qualities of this celebrated stock, (and if any opinion be offered, it will be done with extreme caution,) the author thinks it may not be amiss to say, that from the general character of this breed, as to deformity of carcase, he was prepared to find them worse than, on examination, they proved to be. Nor is this deformity to be wondered at, when we recollect that this nation breeds for the wool alone, careless of the carcase, which, if ever so handsome, from local circumstances, would bear little proportion to the value of the fleece: so with us, we have sacrificed all to the carcase, regardless of the fleece; whilst any man, who attentively goes to work, may realize both wool and carcase, without the possibility of injuring either.

The Merino fleece is, in colour, unlike that of any English breed. There is a dark brown tinge on the surface of the best fleeces, amounting almost to a black, which is formed by dust adhering to the greasy, yolky properties of its pile; and the contrast between it and the rich white colour within, as well as that rosy hue of the skin, peculiarly denoting high proof or aptitude to fatten, surprise at first sight. The harder the fleece is, the more it resists any outward pressure of the hand, with certain exceptions, the more close and fine will be the wool.

Merino sheep have two properties not common to the breeds of this kingdom: the first is, that the males have horns, and that the ewes have none; the second is, a tendency to throatiness, that is, a loose pendulous skin under the neck. The former are patient, as stock to occupy land, without the slightest tendency to break out, or to wander, peculiarly the reverse; but courageous when set on to fight, and vigorous in all other useful and essential points beyond all example. The ewes are easily inured to their layer, and in all respects quiet and peaceful. If any general principle can be established, as to perfection in any race of animals, it is that the males cannot be too hardy and resolute, or the females too gentle and tractable; a disposition to restlessness and irritability, I consider to be a very dangerous quality, and to be avoided altogether.

On their first importation, there was a great deficiency of milk in the ewes, as well as a tendency to barrenness, which is now ascertained to have arisen from the severe journeys to which this race of sheep is twice in the year subjected, when in Spain, and to which their valuable properties have been blindly attributed. They are now regular in their time of lambing; their udders are as full, and they are as good nurses as any sheep I have ever seen. It was not till some years after their arrival in this country, when they had become inured to the climate, that any instance of double lambs occurred, now it is not an unfrequent occurrence.

That power to influence the character of a flock, which is said to exist in the male rather than in the female, is here apparent, first, in as much as the polled rams of this breed, which are occasionally to be found, if descended from a polled ram, will produce male stock having a tendency to be without horns, or at least to have only snaghorns; and, on the other hand, the get of the Merino ram, (an engraving of which is given) on shearling ewes got also by himself, have a strong tendency to horns, almost equally so with the wethers of this breed, which resemble very much the small original Dorset wether; for this reason, I judge that a cross between the best shaped Merino ram, and the old Dorset ewe, will be excellent, because the outward character being much alike, the want of quantity and quality of wool, in the Dorset breed, will be corrected in the most striking manner; this tendency in the Merino sheep, to grow wool in abundance, must add materially to the health of the flock, by covering the most vital and tender parts of the body, namely, the belly and the breast. And it should seem we have the means of carrying the Spanish fleece into the horned breeds of this island, by means of the ram, without destroying the existing character of the breed, whatever it may be; an object of no little importance in the eyes of farmers. For it is observable in crosses of horned ewes with polled rams (natts), that the females are usually polled and the males horned; it possibly may not be so in all breeds, but the author has seen it in crosses between the Leicester ram and Dorset ewe; he has also proved the fact to be so, by a cross between the Bampton ram and Dorset ewe; indeed, to establish this fact was the only object of such a cross. The same, therefore, may be practicable by means of the ewe in polled breeds; such as the Ryeland, South Down, and Berkshire natts, sheep themselves probably of the same class, but varieties as to other short-wool breeds, inasmuch as they have the fine fleeces and fine skins of our horned breeds; and, above all, they will stock as hard as to weight of fleece and mutton *per* acre, more especially the two first mentioned. The effect of a Spanish ram on the fleeces of a horned flock, such as the Dorset, the Welsh (a sheep of neat frame), on the Wiltshire, the Norfolks, the Dartmoor, the Scotch, and indeed the whole race of horned mountaineers, will be neither more or less than a very great increase of profit on the fleece, with very little, if any, injury whatever to the form of the animal. And when we consider, that the fleece makes an annual return, the rental as it were, and that a quick return is allowed to be the farmer's best object, while the carcase, like the fee, can only be once sold, we may express alike our surprise and regret that such fatal supineness should have thus long prevailed, on a subject of the most manifest importance, both to the tenant and the landlord.

The second property to be noted in this breed, is a tendency to throatiness, a pendulous skin under the throat, which is generally deemed a bad quality in this country, and the very reverse in Spain, where it is much esteemed, because it is supposed to denote a tendency both to wool and to a heavy fleece; this property is usually accompanied with a sinking, or hollow in the neck.

In every breed of this kingdom which has come under the author's examination, and there are few to which he is a stranger, he has invariably found the throaty sheep not good in their skins, with every symptom of turning out ill in their proof, (that is, evincing no aptitude to fatten,) with exception of the Ryeland *. This last, like the Spanish breed, carry wool of such high value, as to counterbalance the ill impression of throatiness. Their skins are full as good, and, in some instances, more clear and rosy; a point of infinite importance in sheep, and a sure token of vigour, and consequent disposition to fatten. Among the shepherds in Spain, this property is very much esteemed; and they persist in commending it as an invariable symptom of health, always denoting a good skin, and a tendency to abundant wool. These reasons are substantial enough to bring into repute any

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* In treating of Ryeland sheep, it may not be amiss to remark that they are not a mountain sheep, as many suppose, but are bred in the vales of Hereford and Ross, on the very same land with the Hereford oxen.

How many favourite theories will be knocked on the head by this one fact! If the same land breeds the smallest and finest woolled sheep, it breeds also the largest oxen in our kingdom. A country must be envied, which, without minute attention to the science of breeding, can turn out two opposite animals in size, so good in their kind. It teaches us that more dependance is to be placed on the breed or race of animals than we are at first aware. We offer no comment on circumstances seemingly so contradictory; excepting these sheep are usually kept in small flocks, and run on the summer fallows, and in other respects extremely hard.

property whatever, and are strictly applicable to every sort of breed, in every country, as far as relates to wool.

Nor is it possible for any good judge to reject, on the score of carcase, a sheep whose skin is of this complexion, when accompanied, as it is, with a constant aptitude to quick proof. It was necessary to speak clearly on this point, for such a property must at first offend the eye of our farmers; but, when unattended by those bad symptoms above-mentioned, will probably cease to be an object of offence. By drafting the most faulty ewes, and a due attention to the rams, the throatiness, and the sinking, or hollow in the neck, which usually accompanies it, can be got rid of; so that, in a few years, it is probable few traces of them will be found *. If

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* Nothing has tended to render the Merino sheep more unsightly to an English eye, than the large tuft of wool which covers the head. This wool is of a very inferior quality, and classes with that below the hock of the hind legs. It does not sort either into Raffino's, Fino's, or Tercero's; and is not thought worthy to be exported. It has been our practice to keep the wool of both these parts of the sheep clipped twice or three times a year; the first time about six weeks after shearing. The fleece, although reduced a few ounces in weight, loses very little of its

they are faulty in these points, they are level on the back, and behind the shoulders. There is no reasonable foundation to conclude that a deformity in the shape is essential to the production of good wool; the fact is not so.

Attention has not been paid, in Spain, to the form of their sheep; and it must be evident to every judge of stock, that a journey from the mountains of the north to the plains of the south of Spain, cannot be otherwise than productive of more injury to the frame and constitution of the animal, than of benefit to the fleece, which, like the frame, is dependent on and nourished by the blood. Does it stand to reason, that a long drift of four or five hundred miles every spring and autumn, and that at the rate of eighty or a hundred miles per week, can be beneficial to sheep? Undoubtedly not. Have we a single breed which could support it uninjured? None, which would not have been hunted into deformity.

So far from thinking hot climates necessary

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value; and, if the cat's hair should appear in the head locks, without being visible in any other part of the fleece, which sometimes occurs, the fleece is rescued thereby from a very great drawback on its value, because, in rolling up, these hairs are often mixed with the fleece.

to fine wool, we know that coarse-fleeced sheep are to be found in many parts of Spain; that in Portugal, wool, unmixed with Merino blood, is, of the coarsest quality, worth about 1*s.* 2*d.* per pound. We know too, that after shearing every pile is coarse, and improves, both to the eye and touch, as the autumn advances. No race of sheep has ever been seen, even in this northern climate, to be more impatient of heat, or more oppressed by it, than the Merino. By due attention to food; by moderation and equality of keep; by shelter in the winter months; and by those common regulations which induce health in the animal itself, we shall stand as high, as to the produce of wool and meat, as any nation in Europe. One inference may be clearly deduced from the long drift and yolky fleece of the Merinos; namely, that they are equal, if not superior, to any breed in these kingdoms to work in the fold. We may add, that the length and thickness of wool covering their belly and hind legs, together with a closeness of pile on the back and loins, must of necessity enable them to support more severity of cold and wet than any breed as yet introduced among us; unless we admit, that length and fineness of wool are inseparably connected with weakness of constitution, which evidence from all quarters forbids us to do. With respect to the yolky fleece above noticed, this property alone demonstrates the superiority of this wool to all others, for every purpose of clothing manufacture; and as it is occasionally found in other breeds of short-wool sheep, I think it right to enlarge a little upon it.—By "yolk," is meant that yellow substance which escapes from the skin, and is to be found in the wool of every Merino sheep, when in health and good condition. This singular property it is which qualifies wool for the milling or felting process, and which, in fact, makes the difference between good and bad cloth. It is the surest symptom of health in sheep; and I cannot help considering it as similar to those wholesome secretions in other animals which are the invariable concomitants of health, if not carried to excess: I mean that cold dew which we find in the nose of the ox and cow: this moisture dried up, is the first and surest sign of fever; so, in the human species, when the nasal discharge is regular, health prevails; in fever, it constantly disappears. I may be mistaken in calling these properties analogous; I am not in stating that they are severally the surest criterion of health and disease. When a sheep is fatted, this yolk is thrown out in an increased degree; and, in our English breeds, would probably be attended with a deterioration of the wool; but in the Merino race of sheep, as far as my practice has gone, it adds only to the length of the pile. I see no deficiency of yolk in Merino sheep in England, well kept and inured to the climate; and I am decidedly of opinion, that it is the best proof we can have to guide us, that any climate is not too severe, whilst the yolk rises. If it will rise in Lapland, Merino sheep will prosper there.

In other respects, these sheep are not much unlike some English breeds. The rams, indeed, have a buff tinge in their countenance; they may reach 17lbs. a quarter, when tolerably fat; the ewes are not low on their legs, are very fine in bone, and may reach 11 lbs. a quarter. There are various opinions as to their origin; Mr. Tollet thinks it may be traced from Asia Minor and Greece, into Italy; from thence, probably, into Spain. Columella, and other writers, call them "Tarentine sheep," from the city of Tarentum. We have it recorded, that they originally came from England in the beginning of the fourteenth century: be this as it may, it is high time they return to it again: for although there are different opinions as to their origin; within a few years there will be but one as to their value.

As to distempers, I know of none to which this breed is peculiarly subject. It has been said, that they were subject to constant foot rot; it is infectious, if sheep once affected are suffered to remain long in the flock; but originates in the corrosive properties of the night dews and exhalations arising from them, as I judge, and not from animalcules, as some have supposed. In Spain the flocks are never let out of the fold to feed, until the departure of the morning dews, which are deemed prejudicial to sheep, and may in part occasion that well-known disorder, the rot in the liver. There is little doubt, that it is the immediate occasion of the foot rot, which, in this climate, rarely makes its appearance before St. Bartholomew's Day (the 25th of August), when the dews usually begin to make their appearance, as is expressed by the old adage—"St. Bartholomew brings on cold dew." The remedy, if instantly applied, is certain;—a caustic wash rubbed in between the hoof, will stop the stripping of the skin, and the horn of the hoof toward the toe being cut away (so as to see the clear transparent horn), leaves no room for this fœtid substance to get hold of the foot. Great care must be taken, not to cut away the extreme point of the hoof called the "toe-vein," because it deprives the foot of due circulation of the blood; in other respects, the foot cannot be pared away too close: when the corrosive styptic has been rubbed in, let the sheep be kept in a dry place, to allow the remedy to have its due effect; and separate the stripped and lame sheep from the flock for two days, and the disease will disappear: if it is to be seen for more than forty-eight hours in the same animal, it is generally the fault of the shepherd. The disease has been supposed inherent in the land: I am of opinion this is not the case, because I know that land, supposed to be deeply tainted, has lost (judging from the sheep depastured on it) all vestige of the disease, although unbroken, and not even manured on the sward, which happened to be very old. On that part of the author's farm on which the Merino sheep usually depastured, the foot rot prevailed to the greatest degree when occupied formerly by the heavy long-wool sheep of that district; it has been completely subdued for several years.

They are subject to no constitutional disease, from which other breeds are exempted after the lambs have weathered the first three weeks, and even during that period, only from the shortness of the wool when first dropped, a difficulty to which all fine-woolled sheep are subject.* But it requires no remedy beyond that common caution practised by all the careful flock-masters of South Britain, namely, without shutting up the ewes and lambs in close confined buildings, which are injurious, to drive them into some sheltered homestead, out of the reach of the cutting blasts of wintry winds and drifting snows, which even in the southern parts of our island, make dreadful havoc where flocks have been left so exposed. I know of no farmers more attentive to this substantial good husbandry, than the farmers of the South Downs. In Spain the sheep are carefully housed during the night, or in cold raw weather, for some days after shearing; they are sweated a day or two before this operation, to make the wool part well from the body, and, perhaps, to add something to the weight. If, in one uniform temperature of climate, this treatment is essential to the health of sheep, and beyond a doubt it is so; how much more is it necessary in the variable and uncertain climate of Great Britain? Yet numbers of us have never given a moment's thought, to what we may suppose would be self-evident to men of any capacity whatever; although we cannot command a temperate or steady climate, much of its severity may be counteracted by cheap and simple means. In the mountainous or hilly districts, essential benefit to the wool may be derived from attention to aspect and elevation, as well as soil; and where this attention has been paid, wool is of a superior quality. It is also familiar to every farmer whatever, that the value of the carcase is much influenced by an attention to this circumstance: by stocking the higher ground in summer, where fresh air may be found; and low, well sheltered lands, lying to the south, when winter advances; but though known, this is for ever neglected in practice.

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* Nature seems to have guarded with peculiar care this race, as if conscious of the value of what in her bounty she was giving to man; for, strange as it may appear, it is no less true, that when they are first dropped, the lambs are covered with a long down or hair, which, in the period of a month, falls off, and is a sure prognostic of the finest quality of wool. Whether this extraordinary covering is thicker, or more frequently found in cold climates than in warmer ones; or whether it classes them thus next in gradation to the Lama, or those other animals which, under a hairy covering, carry that downy wool so celebrated in Asia, is a question rather for the naturalist than the husbandman.

Sheep, in some vales, particularly of the southern and western districts, where inclosures are small, and the circulation of fresh air impeded, will pay little or nothing during the summer months, let the keep be ever so good, owing to the heat and that instinctive terror which they have of the maggot or blow-fly. In the three winter months again, all men consider themselves fortunate, if their store flock lose nothing in condition. Reasoning on our own knowledge, and on facts long established, need any stronger argument be adduced to show, how attentive we must hereafter be to such a system, if we had not at this hour, sheep in every part of the kingdom dying by thousands of cold, and want of keep? It is cheaper to feed the outside than the inside; yet plain as all this seems to be, the practice is rarely, if any where, to be found but in Herefordshire: therefore it is, that the Ryeland is next in quality to the Spanish wool; and Spanish writers themselves confess it.

It must not be supposed, that I am suggesting costly buildings for the purpose of cotting sheep in the night-time during cold weather;

two objections arise to them; they are not moveable, and may want fresh air, unless high and large, for air and warmth are equally necessary to sheep at these seasons. Nothing can be more simple than that cot or covered fold I wish to recommend for general adoption during the cold months.

A circular wall 12 feet high, inclosing an area of 40 yards diameter, and on the inside of this wall, a shed, the roof of which slopes inward with an easy descent to 6 feet, will completely shelter a flock of many hundred sheep; as may be seen on the farm at Crawley, near Woburn, the property of his Grace the Duke of Bedford.

Another fold-yard for sheep is to be seen at Betshanger, near Deal, in Kent, composed of the cheapest and rudest materials, situated in a deep chalk-pit. The excellence of the South Down flock occupying it, contrasted with the œconomy of its accommodation, cannot fail to do credit to the good sense and good management of Mr. Boys, who farms it. Where snow is likely to be drifted, such pits should be protected by a mound or bank round the top; this precaution would be requisite also as a security to stock depasturing near it.

In Herefordshire, corn-stacks are the sheds under which the Ryeland sheep seek for shelter; this also is a profitable and œconomical arrangement, because the staddles must be built high enough to keep the corn out of the reach of vermin, and the height which is sufficient to effect this purpose, is ample for the shelter of a flock of sheep.

Two frames, one of them fastened to the back of hurdles, either round the fold, or if only half round it, on that side where the wind is, and the other forming a pent-house, or cover, towards the inside of the fold, resting on a pole of four or five feet in height, with a declivity of fourteen or fifteen inches, to allow the rain to run off, will give sheep all the protection they require, will keep their fodder dry, and will allow them to seek fresh air when they want it. These frames may be made of five poles, each eight feet long, and at fifteen inches distance from each other; may be bound with withy or rope yarn, to reeds, long straw, or any light substance, which will turn wind and rain; by the help of a light drag on four low wheels, these and the hurdles may be moved from place to place, and set up again in as little time as, without such a carriage, is required to change a common fold. The convenience and trifling expence of such cotting, must defeat every objection to a system which ought long ago to have been in general adoption throughout the island; it is possible that, by a sudden change of wind, when blowing hard, these sheltered hurdles may be thrown down occasionally, and sometimes broken; but they may be replaced at a trifling expence. No other objection worthy of notice occurs to their general use.

In Scotland, and the northern counties of England, where most wanted, it is to be regretted that covered folds are rarely, if ever, to be found.

Not a shadow of doubt rests with me, that in the course of a few years, under such management, whatever the breed of sheep may be, the wool of the young stock will be much improved in quality, and the carcase kept up at a reduced expence.

Lest it should be surmised, that the facts here stated, and the conclusions which every judge of sheep will thence be led to draw, should have been formed on a scale of practice too confined, it is adviseable to suggest, that the flock consists of 340 breeding ewes, and the whole produce at two years old, is fatted off, with the exception of such draft ewes as may be sold for stores*; consequently the number of the sheep is from 1000 to 1200; a scale not of the largest, but still large enough with safety to warrant any inference that may be drawn.

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* It has been deemed the criterion of a good and profitable breed of sheep, to ripen early, because there is room to multiply such breeds, far beyond those of slower proof. If a sheep can come to market at two years old, his fleece will be long enough for our manufactures, and not sold at an inferior price as skin wool; much before this period, it would be unfit. The growth of any high proof breed of sheep, is far greater the first and second than the third year; therefore it may be urged, that more profit can be had from the animal at this time, than at any later period, its growth and fleece considered. If attempts had been made to bring into general use a breed of sheep, whose fleeces were of value, but incapable of getting fat, we should be receiving with one hand, what we were throwing away with the other; no general benefit could result: but when we bring sheep bearing such heavy fleeces, and that wool capable of making broad cloths and kerseymeres, of quality sufficient to obtain the Bath Society's premiums, and of a proof or aptitude to fatten equal to, if not exceeding any short-woolled sheep we have, the principle is no longer to be controverted; it must be considered a breed of extreme value.

The lambs are dropt in the vale of Taunton, and continue in it during the first summer. The store flock is summered a short distance from thence, on the hills bordering on Exmoor Forest. The contrast of climate must be remarkable, because there is a difference in the time of harvest of a month: our feeding-sheep are then grazed in the exposed, but rich marsh of Bridgewater, long celebrated for its good beef and fat oxen; or finished in turnips and winter vetches in the vale. We had reason to fear, in either case, that the strength of keep might open the pile, and give a coarseness to the wool, as well as to the grain of meat; but the event has destroyed such fears, insomuch that we had no scruple in sending some wether lambs to winter in the marsh, using the precaution to cott them during the severe winter-months; and although this land had the character of being too strong, and of scowring lambs, even to the danger of losing them, we found the mixed breed able to endure it, and thrive surprisingly. * Whether as an article of

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* They did well until the end of December, when, keep getting scarce, the grounds were *hained up* for a fresh bite in February.

food for those, who are robust, or those, who are delicate, even at the early age of 18 months, when mutton is usually thought indifferent, it is nutritious and exquisite in flavour. There is a firmness in the spine fat; a richness and deep colour in the gravy; and a fine texture and tenderness in the grain, which must command customers, and ensure to this breed the good will of butchers, wherever they may be situated. There are two parties to be considered, the seller and the purchaser. We have had occasion to note, how essential a ready sale is to every article of produce, and that this circumstance, in great part, tended to enforce the necessity of a change of breed. These diversities of soil and climate, unequalled, probably, within the same space of ground, enable us to speak with a confidence, it would be presumption otherwise to do; because together they embrace all those leading varieties, which, some certain spots excepted, are to be found in the whole United Kingdom.

The quantity of stock hereafter stated to run *per* acre, may appear great to many persons: some may be disposed to doubt the facts. Every possible precaution to ascertain them, has been taken, and to speak with as much accuracy as can be, where we are to reason on an average. My wish was not to deceive myself; I trust it is not in my nature wilfully to deceive others. The Ryeland sheep, alluded to, were summered at 2*d.* each per week by my own tenant that season; we know the fact to be correct, which he has repeatedly confirmed by declaring, that it was the exact average *per* acre. In the marsh, such a stock, in point of numbers, of fat and store sheep, has been carried, as would be found almost to exceed belief. The fatting wether-hogs and draft store-ewes, which must be, to make the most of them, kept as high as fat sheep, amounted to more than four *per* acre, during the six summer months; the store ewes amounted to more than two *per* acre, and were large, strong, South-down ewes, of Mr. Ellman's blood, in all more than six *per* acre, besides refuse-lambs, &c. &c. and nothing could exceed their proof. In the winter of 1800, the Vale estate carried, from the beginning of September, to the first week in June, 700 store-sheep, about 250 lambs included, on one hundred acres of pasture land, of which sixty were indifferent, and forty as good pasture land as could be seen: the ground carried more stock; probably from the mode of depasturing. Where sheep work in the fold, they must run in large lots; and some loss *per* acre in the stocking may be incurred, because the profit of the fold is great; but where folding is not practised, and the country much enclosed, sheep should be stocked in small parcels, thin on the ground, and frequently changed: the land thereby is not stained, and one lot follows another in perpetual succession. Every judge of stock knows the value of change, even, occasionally, into worse keep. It is our fixed belief, that we can carry six and a half Ryelands, *per* acre, on land (free of any local consideration) worth one guinea and a half *per* acre, with the help of some turnips and pease-haulm in the dead winter months; and that with judgment in the manner of stocking, we shall neither push them beyond their growth, nor make them meat for the butcher, but shall maintain them in healthy store-state. On the same land, and under the same circumstances, we can carry four South-downs, or their cross, and somewhat more *per* acre. If our Ryeland ewes will fatten to twelve pounds *per* quarter, our South-downs will reach nearly eighteen; the rate of stock *per* acre will, therefore, be found the same in proportion to the size*. The quantity of good mutton and wool *per* acre, must be the only test of good or bad management: it is on the increased stock of South-downs, which his estate in Norfolk now carries, that Mr. Coke prides himself. A noted husbandman from Nottinghamshire is said to have declared, that he never before saw an estate so stocked.

The South-down stock, which is now reared on a farm of the Duke of Bedford, called Maulden, in Bedfordshire, the nature of the land considered, will be found to exceed that which belongs to myself. A very few years ago, great part of this estate was wild, unproductive heath, valued at 2*s*. 6*d*. *per* acre. A Norfolk farmer was invited to take it, but declined any engagement, at any price. Four hundred acres of it have been broken up. Its situation was such as to preclude all extra manure, therefore the estate is making itself by the sheepfold; it now carries 400 breeding South-down ewes, the stocks amounts to 1200, and the fat sheep finished on the same: there remain about 150 acres only of heath to break up, at which time the estate will carry 1600 sheep. The South-down stock is large in size, and of the first-rate quality; the land cannot now be valued at more than ten shillings, and the stock three, *per* acre, winter and summer. We should rejoice to see any improvement more substantial, or more beneficial, than this; for it is to be remembered, that, in proportion as the sheep-stock increases, heavier and better crops of corn will be grown. The average of South-down store stock on Mr. Ellman's pastures at Glynde, he asserts to be four *per* acre; as his sheep are of the largest size, this rate of stocking will be found exactly similar to our own. He could not afford to starve his own sheep, because they are too valuable to make the difference of feed of the slightest consequence.

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* The wethers of each breed will be, of course, some pounds heavier *per* quarter.

The principle, on which Sir Lawrence Palk conducts his sheep husbandry, needs only to be recorded; it will speak for itself. Part of his estate is rich land, improved by water (which heretofore ran to waste), and lies low in the vale of Exeter: the rest borders upon Haldown. Instead of stocking the whole with the heavy-bodied sheep of the country, which either must have been stocked so thin *per* acre as to pay nothing, or have dwindled in size, or have been starved, the estate now carrries 500 breeding ewes; on the lower, 200 of the new Leicester blood, and on the upper part, 300 Ryelands, the produce of which have a large portion of the Merino blood.

As the winter advances, and the heavy-bodied sheep go into turnips, the Ryelands are brought down to run after and clean up the layer, by which they get well wintered; and as the summer approaches, they return to the high lands, and work in the fold.

If any man can devise a system, which, under such circumstances will pay more in good produce *per* acre, let him suggest it: his information will be thankfully received. But it will be urged, Why is it that these men should do more than we do? Why do not we draw from our management as much for the public supply? Because you are tied down and fettered by old prejudices, adverse to your interest; and because they, profiting by a more extended educa tion, reason on a greater scale, and act on principles more consistent with nature and good sense. It is by the neglect of, or by an unremitting attention to, this great secret, in rural œconomy; and, by the adoption of animals for husbandry labour, which do not consume our food, but, on the contrary, add most considerably to it, that the national supply will be either scanty or abundant.

The question having of late been repeatedly asked, What proportion of the Merino blood it would be adviseable to bring into the South-down breed with advantage? My answer has been—One quarter only, provided the outward resemblance and character of the South-down is intended to be preserved; the Ryeland, being a white-faced sheep, assimilates with the Merino more readily, and will bear one half, or even more.

With the strictest regard to truth, it may be said, that the unwearied attention of the Bath and West of England Society, and the abilities of many of its leading members, (one of whom is in himself an host, I mean Dr. Parry) could alone have dispelled those doubts, which hung over the minds of numberless landed proprietors and manufacturers, deeply interested in the event, but despairing of ultimate success.

Its centrical situation as to the superfine manufactures before alluded to, a consequent connexion between the landed and commercial interests, naturally pointed it out as the centre of such undertakings, and induced me to solicit its aid. Our much lamented President, the late

Duke of Bedford, was decidedly of the same opinion, and acted up to it accordingly. His loss, great as it is to the farming part of our community, would have been irreparable, were it not that his successor is bent on promoting objects so notoriously beneficial: an intimate knowledge of him enables me to say, that, as far as I am competent to judge, he has ability and knowledge to perfect them.

From the foregoing observations, it will appear, that, in its common application to British husbandry, the Spanish breed of sheep has the power, perhaps exclusively, to maintain its quality of wool; for, strong keep will lengthen, but will not open or deteriorate the pile; that it has, without question, ameliorated the quality, and, what is of more importance, has added considerably to the quantity of our native short-wool fleeces, whilst, at the same time, the proof or aptitude to fatten has increased rather than diminished. Supposing, then, that no great improvement in the shape should be obtained, it becomes to any man simply a question between his eye and his pocket; if he must have beauty, and that, too, of an unwieldy description, let him have it; but if he prefers profit, which is supposed to be the more substantial acquisition of the two, he knows where it may be found. A trite but wise adage says, "Handsome is, that handsome does."

He was a bold man, who first ventured to introduce among us an Alderney cow; and he must have had an eye stedfastly fixed on this adage for consolation; yet the event has justified his hardiness. Just so with these Merino sheep; but, as other breeds have been improved, so by careful selection may these; for the foundation, good wool, and good and early proof, are not deficient.

This race of sheep has retained all its quality of pile in Saxony, as well as in Sweden and Denmark, where it has been spreading for 50 years past; in proof of which, 200 bags of Merino wool, scoured and sorted, were imported some years ago into this country, by one person, and the whole of it sold at the primest price of Spanish wool: when manufactured into cloth, it worked up as well, as it looked in sample. The exertions of M. Lasteyrie, in his late work (Histoire de l'introduction des Moutons à laine fine d' Espagne, dans les divers Etats de l' Europe, et au Cap de Bonne Esperance) must not pass unnoticed; his knowledge has obviously been obtained in the sheep-fold, and the fluency and correctness with which he details the various diseases of sheep, and their remedies, declare him to possess a shepherd's knowledge of a flock.

In his commencement of the subject, he expresses himself thus: " The different governments of Europe had long acknowledged the advantages that would be derived to agriculture and commerce, from the introduction of fine wools into their respective states; but their views meeting opposition in the ignorance and prejudice of the times, a considerable number of years elapsed, before they set about realizing an idea, which, at first, seemed chimerical; at length there appeared men equally commendable for their patriotism and for their knowledge, who have laboured with zeal and perseverance, to enlighten their fellow-citizens, by producing facts to prove, that nature, far from opposing itself to the preservation of fine-wool sheep in certain climates, seemed, on the contrary, to lend itself complacently to the exertions of industry. I believe I have demonstrated in my treatise on Sheep, that the fine wools of Spain depend neither on the voyage, nor on the soil, nor the climate, nor the pasture; but that it depends on other causes, and that it is possible to have in France and elsewhere, wool of the same quality as that of Spain. My travels in the North of Europe have offered facts and observations, which have afresh demonstrated this truth. I have found in the far greater number of the flocks I have examined, wool, which, judging from the eye, or the touch, equals in beauty and fineness that of Segovia and Leon; so much so that, in my opinion, no doubt can remain, that we can obtain superfine fleeces in every part of Europe, where pastures are to be found, and where we can depend on winter food, on which sheep can be supported. These wools make cloths as fine, as silky, and supple, as those manufactured of Spanish wool, as attempts made in France, and other countries prove. But were it true, that the food, climate, and other local circumstances, had a certain influence on the intrinsic qualities of wool, such as the elasticity, the strength, the softness, &c. &c. it would not be the less proved, that, at all events, cloths, fine and beautiful enough to satisfy persons the most difficult on this point, can be obtained; and that a nation can easily do without the fine wools of Spain, and feed its finest manufactures with those drawn from its own proper soil. Nevertheless, as these truths are still held in doubt by some persons, and lest these doubts should have a considerable influence on our agriculture and our commerce, I thought it my duty to publish these facts, which must give a new degree of force and certainty. I here present to view the actual state of Merino flocks, naturalized in Europe."

He says, that a Merino flock came into Sweden in 1723; that from the year 1740 to the year 1780, a bounty of 75 *per Cent.* was allowed to those who sold fine wool; in 1780, these bounties were reduced to 15, and in 1786, to 12 *per Cent.*; and in 1792, being no longer deemed necessary to encourage this breed, they ceased. In 1764, Sweden possessed 65,369 Merino sheep, of the pure blood, and 23,384 of the mixed blood: since that period they have constantly increased in number, in spite of the difficulty occasioned by the length of winter and severity of the climate. That the Merino sheep preserve, in Sweden, their pristine form; that the fleeces have lost nothing of their equality of length, their elasticity and fine quality of pile; that their weight continues as great as in Spain; that he has seen Merino rams whose fleeces weigh thirteen pounds each; and that, when seasoned to the climate, and properly fed, he has seen them larger and finer sheep than in Spain. Upper Saxony, he says, is the country next to Sweden, where the introduction of the Merino breed is of the longest date; and it is in Saxony where this naturalization has met with the most marked success, and produced effects the most beneficial: the native breeds have, by a mixture of Merino blood, profited in an equal degree. The first importation was in 1765; the next in 1778. Mr. Lasteyrie says, he has seen many different flocks, and has found the pure Merino, as well as some mixed breeds, producing wool of the first quality; indeed, the sheep-walks of Saxony are, at this moment, more productive than any other species of husbandry; and that the wool sells at three times the price (*un valeur triple audessus*) of the wools of the country. Saxony rears about 1,600,000 sheep; of which, 90,000 are Merinos, and the mixed breed.

They were introduced into Prussia by Frederick the Second, in the year 1786. Some of these, distributed over the country, from mismanagement and gross neglect, have degenerated and died; others he has seen, which preserve their pristine qualities.

In Denmark, and in various parts of Germany, Mr. Lasteyrie has seen this race of sheep always prospering, if well treated; and in this and every other country, degenerating from want of food and neglect; always, however, doing as well as the native breeds in the same keep, and in some cases better; that the more regular and ample the supply of food is, whether of grass or green vegetables, the heavier and finer will be the fleece, the larger in size, and more perfect in shape, will the sheep be. He strongly recommends housing; but adds, that foul, close sheep-cots are injurious; that a free circulation of air is always found beneficial; and that this breed of sheep suffers more from heat than from cold—(this doctrine has been repeatedly confirmed by our practice at home); that they will get fat as quick as any indigenous breed, in any country, and have done so wherever a comparison has been made.

The details of the treatment of the Merino flock at Rambouillet, a national farm near Paris, merit notice; they appear to result from much patient observation. An experiment was there made, which denotes the peculiar character of this breed, and its tendency to carry wool. A ewe, eighteen months old, was left unshorn; the next season, her fleece, when shorn, weighed fourteen pounds ten ounces; and its pile, which was double the usual length, lost nothing as to weight, because few ewes would have given more wool, if clipped at the usual periods. Another ewe was shorn at thirty months old, and gave a still greater quantity of wool, although she, at that season, suckled a lamb; her fleece weighed twenty-one pounds, and the pile was eight inches long. In the ninth year (1800), eight ewes, whose fleeces were of two years growth, gave from sixteen to twenty pounds each. It appeared from these different experiments, that Merino wool, of two years growth, will double its length, and will preserve all its fine quality; it was not observed that the sheep subjected to this experiment, suffered particularly from heat, or that their health was in any degree injured.

It is possible that this property of the Merino fleece, to grow beyond the period usual in our breed of sheep, may be productive of some new manufacture, where great length and fine quality of pile is requisite; but the hazard of the blow-fly, and the chance of losing, in hedges and brakes, any part of a fleece, after it is once fit for a manufacture, will not allow of this practice becoming general, admitting even that the sheep suffer nothing in their proof during the summer months, from the weight of the fleece, which, in a large scale of practice, is improbable, and that the wool should be found to pay as well for growing to this length, as it would when shorn in common course; but we have taken the liberty of noticing a circumstance so novel to us, because our English breeds are all supposed to cast their fleeces at a certain season of the year, if not shorn, with exception to lambs, which hold their fleeces—(this is quoted by many as an argument against shearing lambs); because the fact has also been doubted by some of the best informed and liberal amongst us, not supposing the reporters of Rambouillet meant to deceive, but that some mistake must have been made. A sample of this wool is now in England; I have carefully examined it, and can bear testimony to the fact.

The Duke of Bedford, who left Paris at the moment when hostilities were about to commence, consequently the latest, as well as one of the most correct judges of the matter, declares that he carefully examined the Merino sheep at Rambouillet, and that he found them of a size he was unprepared to expect, and that still the wool preserved its original purity. Samples of the wool taken when the sheep first arrived, and at various periods since that time, were examined by him, with all possible accuracy, and evidently declared a progressive improvement. He thought the wether sheep, of the pure blood, might be fed to twenty-five pounds *per* quarter; a size beyond which, it will not be advisable to push them, unless vanity is to be gratified at the expence of profit.

M. Pictét, editor of the Bibliothêque Britannique, in frequent details of the success which attends these sheep, both on the national farms near Paris, and on his own, near Geneva, where his flock consists of 400 Merino sheep, says, in his 210th Number—"* Je publie pour la cinquième fois, dans notre Recueil, le rapport annuel concernant mon troupeau de race pure, dont lé noyau a été formé par les brebis de Rambouillét. Il est pleinement constaté, aujourd'hui par l'expérience d'un grand nombre d'agriculteurs, que les Mérinos réussissent fa-

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* "In our Journal, we have given the fifth annual report of our flock of the pure blood, originally drafted from that of Rambouillét. It is now clearly proved, by the experience of a great many husbandmen, that the Merino breed succeeds remarkably well, and without degenerating; and that this valuable acquisition, which France owes, in

cilement et sans dégénération. Cette belle conquête de l'industrie que la France doit surtout aux Commissaires inspecteurs de Rambouillét, est pleinement assurée. Les Mérinos se soutiendront par la nature même des choses, qui fait que les cultivateurs emploient leurs fonds de la manière la plus profitable. Il devient beaucoup moins nécessaire de publier des faits qui, à quelques legères différences près, sont la repétition de ce qui s'est passé dans les années précédentes. Cependant, comme les préjugés des agriculteurs sont extrêmement opiniâtres, il ne faut point se lasser de redire, en offrant aux incrédules tous les moyens de s'éclairer. Il y'a d'ailleurs toujours quelques details, et quel-

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a great measure, to the managers of Rambouillet, is fully established. The Merinos must keep their ground, from the very nature of things; for husbandmen will employ their capitals in the way they find most advantageous.

" It is now almost unnecessary to publish facts which, with a little variation, are merely repetitions of what has before taken place; but, as the prejudices of husbandmen are very difficult to remove, in endeavouring to convince the incredulous it is necessary to lay before them all the proofs we possess; and there is always something new occurring.

" One hundred and fourteen store ewes (*brebis portières*) of the pure blood, have reared 111 lambs (56 rams, and 55 ques points de vue nouveaux. Cent-quatorze brebis portières de race pure m'ont donné cent-onze agneaux réussis, dont cinquante-six mâles, et cinquante-cinq femelles. Il y eut dans les premiers jours du part, c'est-à-dire, dans la première quinzaine de Décembre dix avortemens. J'étois absent alors; et mes bergers n'ont su trouver d'autre cause probable de cet accident, ordinairement rare dans les troupeaux bien soignés et bien nourris, que l'habitude prise par les brebis de sauter un petit fossé de clôture dans une des pieces de leur parcours. Quoiqu'il en soit, le déficit s'est trouvé à peu près comblé; car dix brebis ont fait deux agneaux, et sur le nombre de vingt, dix-neuf de ces agneaux ont réussi.

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ewes). In the commencement of the lambing season (in the first fortnight of December), we had ten miscarriages. I was from home at the time, and the only reason my shepherd could assign for this accident (a rare one in well-managed flocks) was, that the ewes had got a custom of leaping over a ditch in one of the inclosures. However this may be, the deficiency was almost made up, by ten of the ewes having twins, only one of which died.

" The quantity of wool has not been so considerable this year as last, probably owing to the coldness of the weather, or some particular state of the air, and of the

"La quantité de laine n'a pas été aussi considérable cette année que l'année précédente, ce qui a dépendé apparemment de la température, ou de quelques dispositions particulières de l'atmosphère, et des pâturages, puisque la même chose a été observé dans d'autres troupeaux biens soignés, et que le mien a toujours été dans le meilleurs état possible. Le poids moyen des toisons des brebis portières a été de 7 livres 1 once (poids de maré)."

In a private letter, he says—"I have much admired the samples of wool you have caused to be directed to me; I like to see your perseverance gets the better of prejudices among your neighbours. The Spanish breed of sheep is a true mine, which the English have refused to explore till now. I don't know whether I am mistaken, but I suspect in you a higher opinion of that breed than you were pleased to own. It seems that, in order to reconcile your prejudiced countrymen to the admission of these foreign sheep, you disguised them under the Ryeland and South Down cloak; and knowing

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pastures, as the same thing has been observed in other well-managed flocks, and as my own has always been kept in the best possible state. The mean weight of the fleeces of the store-ewes, was 7lb. 1oz. (poids de maré)."

that meat and fat are, in England, the necessary passports of good fleeces, you particularly insisted upon the carcase being not injured by the introduction of the Spanish blood. Is it your opinion that there will be more profit for you in crossing the Spanish rams with the Ryeland and South Down ewes, than in breeding the Spanish in and in? Have you any experiment which makes you suppose that a degeneration would take place by persevering exclusively in the same blood? Now, if there was no degeneration, (as I am led to suppose, by my experience, and that of many others in France,) would not there be infinitely more profit in keeping the pure Spanish breed, than by crossing? The reputation of that excellent breed cannot but increase and extend annually, in Great Britain. If the monopoly created by your wool laws, in favour of the manufacturer, was once abolished, the Spanish sheep would, no doubt, grow more and more popular. The advantages I experience, by the keeping of that breed, would certainly be still greater with you, since you have already hired out Spanish rams at one hundred guineas *per annum*; whereas, I could not sell them higher than twenty-five. You will see, however, in the

Number of September, of the Bibliothêque Britannique, that the produce of my flock is immense, considering the capital. I should learn with great pleasure, that the number of these sheep is increasing in England; I shall say, in the terms of Washington, 'the multiplication of useful animals is a common blessing to mankind.' National jealousy, on that point, is highly absurd. Industry has an immense field; and, if rival nations, instead of crossing each other in agricultural and commercial views, endeavoured to take the lead in useful improvements, and emulate each other in all good things, they would be reciprocally subservient to the prosperity of their neighbours, without hurting their own. There would be more happiness for all individuals, and more people to enjoy it. So much for a dream! I come to the samples of your flock.

" I have, in my collection, samples of all English wools: your Ryeland is comparable to most of the Spanish wool of commerce; but the improvement is evident in the cross; the half Ryeland half Spanish, has all the qualities of fine Spanish wool. There is one quality, which is peculiar to the prime Leonese, viz. an extreme softness, joined with strength and elasticity. All your samples seem to partake, in a high degree, of that quality; and it is peculiarly remarkable in the cross of Ryeland*. Now I suspect it may be partly owing to the rubbing of ochre, after the Spanish fashion; I was led to think so by observing a reddish tinge† in your samples, which I suppose to have been washed on the back, and by remembering that you had countenanced that method. Be so good as to tell me whether it was so or not? I take the liberty of sending here inclosed, a sample in the yolk, of one of my best rams. I have not yet met with a finer fleece among many hundred Spanish beasts* that I have examined; as well those lately imported from Spain, as the flocks that have been naturalized these many years. That ram belongs to the seventh or eighth generation, born in France, out of the original flock arrived from Spain, always breeding in and in, with a remarkable increase of weight in the animals and in their fleece. These facts deserve attention. You may see in the last report of Tessier and Hazard, concerning the sheep of Rambouillét, the results of the comparison between the newly arrived Spanish rams and ewes, and the old stock issued from individuals drawn from Spain eighteen years ago; I have seen the two flocks, and would have prejudged the fact as it is stated. In my flock, the mean weight of the fleeces of the ewes of the Rambouillét breed, has been seven pounds twelve ounces (pois de maré) in the yolk. Now, the mean weight of the fleeces of the Spanish ewes arrived last year at three of my neighbours' premises, has been five pounds. As to the comparative fineness, no better criterion could possibly be obtained, than the price fixed by the merchants and manufacturers in the public sale at Rambouillét. The manufacturers do not act at random, when they give a price full as high for that wool as for the prime Leonese, coming from Spain; they have known its value, by repeated experiments, these many years."

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* It was to this wool that, within ten days after the receipt of this letter, the premiums were adjudged, by the Committee of the Bath and West of England Society.

† The common colour of the soil. Nothing has been rubbed in. A trial was made, three years ago, on some Ryeland sheep, in order to prove whether ochre tended, in any degree, to give a softness to the wool; but it appeared to have a contrary effect, if any. No trace of such a practice could be discovered among the shepherds in Spain, as has been stated; yet in some parts it may prevail. Some fleeces, brought from Spain in 1800, were analized by Dr. Garnett, and no ochre could be discovered. M. Lastéyrie agrees in the disuse of ochre, and considers it as an application to prevent the skins from blistering, in the sun, immediately after shearing; in no other way useful.

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* A French idiom expressive of sheep.

M. Pictét is sometimes disposed to smile at our bigoted adherence to the outward form of our sheep, and to those properties which render them capable of becoming good mutton: but M. Lastéyrie does not quite give in to the ideas of the Continent in this particular.

* "Je présume qu'une pratique, usitée par quelques bons agriculteurs Anglois, pourroit avoir des avantages dans le cas où l'on voudroit conserver aux agneaux leur toison pendant les deux premières années, et même pour les moutons qu'on soumet à une tonte annuelle; on coupe sur le corps de l'animal la surface de la toison à la hauteur d'une ou deux lignes. Cette

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* "The practice of certain good husbandmen in England, would be attended with advantage, in my opinion, either where the fleece of lambs is intended to be preserved two years, or for sheep which are annually shorn. A little is clipped from the surface of the fleece of the animal; say one or two lines in length. The loss of wool, in a middling sheep, occasioned by this operation, is not more

opération, qui occasionne dans la toison des animaux de taille moyenne une perte de demi-livre ou plus, accélère cependant la croissance de la laine ; elle doit donc procurer un bénéfice au temps de la tonte. L'expérience a appris que les cheveux ont besoin d'être refraîchis pour croître avec plus de vigueur.

" On avoit d'abord pensé que les races des Mérinos n'étoit pas susceptible de produire en France d'aussi belles laines qu'en Espagne, parce que la France ne jouit ni du même sol, ni du même climat que cette partie méridionale de l'Europe. On a ensuite dit que la finesse des laines étant une effet des voyages, on n'obtien-

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than half a pound ; and the growth being thereby accelerated, we may expect to have a heavier fleece at shearing-time. We know by experience, that in order to make our own hair grow vigorously, it requires occasional cutting.

" It was at first imagined that the Merino breed was not capable of producing, in France, wool of as fine a quality as they do in Spain, on account of the climate being colder ; it has also been said, that the superior quality of the wool is owing to the journeys these animals are made to take ; and, consequently, that as we cannot manage them in the same way, we shall never be able to have it of equal fineness.

" All these reasonings having been belied by experience, droit jamais en France le même degré de finesse qu'en Espagne, parce qu'il nous étoit impossible de soumettre les moutons au même régîme.

"Tous ces raisonnemens ayant été dementis par l'expérience, quelques personnes ont cherché à deprécier les Mérinos, en soutenant que ces animaux n'étoient pas de nature à prendre beaucoup de graisse, et que leur chair étoit d'une très-mauvaise qualité. Cette objection specieuse peut-être sous quelques rapports, est cependant complètement détruite par les faits.

"Il est vrai que le mouton qu'on mange en Espagne, est généralement maigre, coriace, et d'un goût désagréable ; mais j'ai observé dans

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some have attempted to depreciate the Merinos, by maintaining that they are incapable of taking on much flesh, and that their mutton is of a very bad quality ; in a partial view, this objection might have the appearance of some degree of plausibility ; it is, however, completely done away with, by facts It is not to be denied, that the mutton we eat in Spain is generally lean, tough, and ill tasted ; but I have observed, in my Treatise on Spanish Sheep, that the bad quality of the mutton in that country, is owing to their sheep not being slaughtered until they are past breeding, or until they begin to drop off, from old age. Those who feed for the butchers, pasture their sheep upon commons near towns, already so eat down, that the sheep can with difficulty keep themselves alive. The Spaniards have very

mon Traité des Bêtes à Laine d'Espagne, que la mauvaise qualité de la chair des moutons en Espagne, provient de ce qu'on ne les livre à la boucherie, que lorsqu'ils ne sont plus habiles à la réproduction, ou lorsqu'ils commencent à dépérir de vieillesse. Les entrepreneurs des boucheries les conduisent alors sur des terrains communaux situés dans le voisinage des villes, et si dénués d'herbe, que les moutons trouvent à peine de quoi se nourrir. Les Espagnols conservent très-peu des moutons châtrés dans leurs troupeaux voyageurs, tout au plus dans la proportion de deux septièmes, et même ils ne font subir la castration aux mâles que lorsqu'ils sont parvenus à un âge avancé.

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few wethers (*moutons châtrés*) in their travelling flocks, at the utmost, two out of seven; and, besides, their rams are never castrated until they become old.

" Such management must produce bad mutton in any breed of sheep. Besides, the coarse-woolled sheep in Spain are not better mutton than the Merinos; and I myself have eat, in this country, Merino mutton as delicious as our own. What I have advanced is confirmed by facts, ascertained by Citizens Tessier and Hazard, which we shall give as stated in their report to the Institute, in the year eight.

" The experiments we had formerly made in feeding of

" Toute espèce de race soumise à un régîme aussi vicieux, donnera un chair de mauvaise qualité. D'ailleurs, les races à grosse laine en Espagne, n'ont pas une chair plus délicate que celle des Mérinos; et j'ai mangé dans ce pays, du Mérinos aussi savoureux que le mouton de France. Ce que je viens d'avancer, trouve sa confirmation dans les faits recueillis par les citoyens Tessier et Hazard. Nous allons les rapporter d'après ce qu'ils ont consigné dans le compte rendu à l'Institut en l'an 8. Les expériences que nous avions faites jusqu'ici, en mettant en *pôture* des moutons Espagnols, n'avoient point été suivis dans leur détails. Il étoit absolument prouvé que tous les animaux

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Spanish sheep, have not been fully detailed. It has been undeniably proved, that all those animals were fattened, and their flesh was at least as delicate as that of any other breed of sheep.

Having a prejudice to overcome, which retarded the propagation of fine-woolled sheep, it became necessary to produce positive facts, and authentic experiments made by order of government. For this purpose, on 18 Ventose, we took three sheep of the same age, but of different weights, making a total of 121 Kilogramms, 5 Hectogramms (243lb.): there was a difference of 5 K. 5 H. (13lb.) between the weight of the heaviest and lightest.

qu'on y avoit soumis, s'étoient engraissés, et que leur chair étoit au moins aussi délicate que celle des moutons de toute autre race. Comme nous avions à detruire un préjugé qui empêchoit qu'on ne propageât avec facilité les bêtes à laine superfine, il étoit nécessaire de présenter des faits positifs et revêtus de l'authenticité qui caractérise des expériences faites sous les yeux du Gouvernement. En conséquence, le 18 Ventose dernier, trois moutons ont été mis à part: ils étoient de même âge, mais de poids inégaux, formant ensemble cent vingt-un kilogrammes, cinq hectogrammes (243 livres). Il y avoit du plus au moins pésant, une différence de cinq kilogrammes, cinq hectogrammes (13 livres). On les a nourris d' abord de luzerne et de son; ensuite on a supprimé le son, pour lui substituer de l'orge, de l'avoine. Les animaux ont été pésés tous les quinze jours à peu près, ainsi que la nourriture qui leur étoit destinée pour cet espace de temps."—" Il en est résulté,

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We began by feeding them on lucerne and bran; afterwards we gave them barley and oats instead of the bran. Once a fortnight, we weighed both the animals and the food they were to have, during that period; and we ascertained,

1°. Qu'au 14 Prairial, jour où l'on en a tué un, le poids total des trois moutons étoit de cent soixante-trois kilogrammes (326 livres): ils avoient augmenté de quarante-deux kilogrammes, cinq hectogrammes (83 livres);" 2°. Qu'alors la différence de celui qui pésoit le moins à celui qui pésoit le plus, étoit de quatre kilogrammes, deux à trois hectogrammes (8½ livres); c'est-à-dire, que cette différence étoit de deux kilogrammes, deux à trois hectogrammes (4 livres, 9 onces) moindre que quand on avoit mis les animaux à l'engrais;" "3°. Que celui qui a pésé le plus à la fin, étoit celui qui ne pésoit ni le plus ni le moins en commençant;" 4°. Que le moins pésant des trois à la fin, a été celui qui

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1°. That, on 14th Prairial, the day on which we killed one of them, the total weight of the three amounted to 163 Kilogramms (326 lb.) shewing an increase in their weight of 42 K. 5 H. (83 lb.)

2°. That the difference between the heaviest and the lightest was 4 K. 2 or 3 H. (8½ lb.) that is to say, 2 K. 2 or 3 H. (4 lb. 9 oz.) less than when they were put.

3°. That the sheep of greatest weight at the end, was that which was neither heaviest nor lightest at the beginning.

4°. That the lightest in the beginning remained so to the end.

pésoit le moins en commençant;" 5°. Que la plus forte augmentation de chacun a eu lieu dans les douze premiers jours;

6°. Qu'il y a eu une rémission d'augmentation pendant un temps chaud dans deux animaux seulement, après laquelle le temps étant frais, l'augmentation a été plus forte;"

7°. " Qu'à deux réprises, un a augmenté, quand deux autres ont diminué; ce ne sont pas les mêmes, chaque fois qui ont diminué."

8°. " Qu'après l'époque du 15 Prairial, les deux restans ont diminué de plus en plus, et inégalement."

" Chaque mouton, en quatre-vingt-six jours, a consommé cent quarante kilogrammes, trois hectogrammes (281 livres) d'alimens, ou seize

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5°. That the greatest increase in each took place during the first twelve days.

6°. That during hot weather, their increase was retarded in two only; after which, the weather becoming cooler, the increase was more remarkable.

7°. That at two different times, one had gained weight, while the other two had lost: and it was not the same each time.

8°. That after 15th Prairial, the remaining two have gradually lost weight, though unequally.

Each of the sheep consumed, in 86 days, 140 Kil.

à dix-sept hectogrammes (3 livres 4 onces) par jour.” “ Ce n’est pas quand ils ont le plus augmenté qu’ils mangeoient le plus; mais ils ont mangé le plus depuis le quinzième jour jusqu’au quarante-cinquième. Le mouton tué le 14 Prairial, le moins pésant des trois, pésoit quarante-neuf kilogrammes, sept à huit hectogrammes (99 livres)—savoir

	Kil.	hect.	livres.
Chair et os -	25	5	51
Toison	3	6	7¼
Suif -	2	8	5½
Foie et poumon	2	—	4
Tête, pieds, peau, intestins	14	3	28½
Sang	1	6	3½
Total	49	8	99½

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3 Hect. (281 lb.) of food, which is at the rate of 16 or 17 Hect. (3 lb. 4 oz.) a day.

It was not when they consumed most food that their increase in weight was greatest, for they consumed most from the 15th to the 45th day.

The sheep killed on 14th Prairial being the lightest of the three, weighed 49 Kil. 7 or 8 Hect. (99 lb.) as follows:

	Kil.	Hect.	lb.
Meat and bone - -	25	5	51
Fleece - - -	3	6	7¼

"Nous observerons que parmi les moutons Espagnols, engraissés précédemment, quelques-uns ont donné plus de suif que celui qui nous a fourni l'occasion de ces details. Sans doute les deux autres en eussent donné d'avantage, mais nous ne pouvions en disposer alors. Quoiqu'il en soit, la viande en a été trouvée excellente." "Cette experience ajoutée aux autres, prouve incontestablement que les moutons Espagnols sont susceptible d'engraisser, et que mal-à-propos on a cherché à répandre des preventions contre la qualité de leur chair."

	Kil.	Hect.	lb.
Fat - - - -	2	8	5½
Liver and lungs - -	2	—	4
Head, feet, skin, and entrails	14	3	28½
Blood - - - -	1	6	3½
	49	8	99½

We must observe, that several of the Spanish sheep we had previously killed, had more fat than what is here stated, and we have no doubt that the other two would have given more, had we put them to the proof: Be this as it may, the meat was declared most excellent. This experiment in addition to others, proves, beyond a doubt, that Spanish sheep are capable of being fattened, and that false prejudices against the quality of their mutton have been industriously propagated."

Having, in the foregoing quotations, given some idea of the interest this breed of sheep has excited on the Continent, it is now time to return to our own country. Some of the observations in the preceding part of this essay having been addressed to the Bath Society, the chairman was pleased to express himself as follows:

"My Lord,

"As Chairman of this Anniversary Meeting, I am directed to convey to your Lordship the most grateful thanks of the Society for your valuable Essay on Sheep and Wool, and for your exhibitions of stock and utensils of husbandry; all of which were received with sentiments of the highest approbation. I have the honour to be, &c. &c.

"John Billingsley."

Dec. 15, 1802.

REPORT OF THE COMMITTEE (COPY.)

"Your Committee appointed to take Lord Somerville's Memoir into consideration, have perused the same with much satisfaction. It contains a great deal of interesting information respecting the Spanish breed of sheep, and the different crosses of them; and his Lordship appears now to be demonstrating from his own experience, what he long ago promised to the Society and to the public.

(Signed) JOHN WHITE PARSONS,
GEORGE TOLLET,
RICHARD ASTLEY,
DAVID SWEET,
JOHN R. LUCAS,
S. PAYNE,
JOHN R. BRACHER,
GAB. GOLNEY,
W. C. SLOPER."

Among the stock exhibited, was a Merino ram, reduced almost to a skeleton, by a tedious voyage from Spain, in boisterous weather, which had since served more than one hundred ewes, and was taken from the flock the day he was sent from Bath. We believe this circumstance could hardly be known, and that it was probably the first time a ram was ever exhibited for public inspection at that time of the year, after serving any number, much less such a flock as one hundred ewes, running with them all at the same time; more particularly when we include the sea voyage, which constantly produces fever, until sheep are seasoned to it, and always renders their importation a matter of exceeding difficulty; yet, under all these disadvantages, there was a natural tendency in him to lay on flesh and fat, which could not be controlled, together with a breadth of chest, a fulness in the twist, or leg of mutton, and a breadth on the back, exemplifying the symmetry to which these sheep, by attention to the frame, may be brought; he cleft two inches thick of fat on the rump.

A tame bell-wether, or manso, was shewn at the same time, and killed; he was kept for the purpose of leading the flock (for no dogs are used in Spain), and always followed the shepherd, feeding from his pocket; so that when he came to this country, at three years old, this sheep might have been warranted never to have tasted grass, yet, with hardly a tooth in his head, he brought himself to be good mutton, on grass alone, and was as fat as need be served at table, or "eat with bread," as the technical term is. The half-bred Ryeland, and South Down two-tooth wethers, died as well, carrying as much spine fat as was necessary; and, besides what was on the kidneys, rough fat, or tallow, in full proportion to their age and size; one of them, a small sheep, was judged to carry as much wholesome flesh on the spine, as some sheep would, weighing forty pounds *per* quarter.

Several rams, brought over with the flock, were of a shape unfit to breed from*; notwithstanding the sacrifice was great, prime cost, and heavy expences of the voyage considered, they were cut about the middle or end of October; and although very low in order at that time, even these have exhibited a tendency to get fat, which absolutely surpasses belief. Some of them were spared to a gentleman near Taunton, and were judged by butchers to be fit to kill, and good meat in January. For two Merino ewes exhibited, fifty guineas were offered, in presence of the whole meeting, and more was ready to be given, if that price was not sufficient; it was not accepted.

This subject has, at length, excited a more than common interest, and numberless questions are asked as to the return, or profit, *per* acre, on clothing or fine wool; this will depend on the nature of the keep; if sheep are to run on pasture land only, during the whole year, so much will depend on the nature of the seasons, that no fixed value, or specific rate of stock can well be given. If a large portion of this grass is to be kept hained up for winter, and the season be not favourable, autumn rains, followed quickly by frost, will kill very much of the foggage, and the sheep will consequently be very hard driven for food from Candlemas to the next shoot of grass, however late that may be. The quantity, indeed, of stock to be carried *per* acre, as well as their health and good condition, must be in proportion as there is more or less produce; and on the competent and regular supply of food, the growth of good wool wholly depends. To elucidate this subject, I cannot do better than give Dr. Parry's general statement of my claim for the Bath Society's premium, offered "for a change of breed of sheep, with positive profit resulting therefrom," and his conclusions thereon, which is, on all hands, acknowledged to be one of the most able sketches ever given to the public.

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* Out of thirty-three Merino rams, of pure blood, thirty were not fit to breed from, with a view to improvement of any thing but wool, and one only, from which rapid approximation to that outline or frame indispensably requisite in the eyes of every British farmer, could be expected.

"About the year 1800, Lord Somerville's stock (as stated by him in his Memorial to the Society) consisted of forty-five ewes, of the long-woolled sort. Finding these annually degenerating, and also becoming annually less profitable, he changed them, at the above-mentioned period, for one hundred and fifty Ryeland ewes. In the first year, though the winter was severe, the ewes supported themselves tolerably well, and the lambs were in very good order at weaning time. In their future growth, as wethers and store ewes, they far exceeded in weight their parent stock. One lot of the wethers sold as high as three pounds each, and were fed upon grass and hay only. In the following year, Lord Somerville brought from Spain some rams and ewes, of the Merino breed. These rams, in each subsequent year, have been, and now continue to be put to ewes of the South Down and Ryeland breeds; from each of which crosses a valuable species of sheep has been obtained, both in fleece and carcase, the relative value of which has been detailed by his Lordship, in his Memorial of 1802; the substance of which is, that South Down store ewes, at three pounds *per* fleece, and at 1*s.* 10*d.* *per* pound, will pay 5*s.* 6*d.* *per* fleece; which, at 6½. *per* acre, in good upland pasture, for seven months, and five months in turnips, at 14 or 15 *per* acre, will pay 38*s.* or 40*s.* *per* acre. Ryeland store ewes, two pounds and a quarter *per* fleece, at 2*s.* 2*d.*

per pound, untrinded, nine sheep *per* acre, and turnips as above, will pay 2*l.* 3*s.* 10½*d.* *per* acre.

"South Down and Merino ewes, of the half breed, at four pounds *per* fleece, clean washed, and 3*s.* *per* pound, will amount to 12*s.* *per* fleece; which, at 7½ *per* acre, for seven months, amount to 4*l.* 10*s.* *per* acre for the pasture land, with turnips as above for winter keep. Rye-land and Merino ewes, of the half blood, at 10 *per* acre, for seven months, and turnips as above, at 3¼ pounds *per* fleece, and 3*s.* 2*d.* *per* pound, amounts to 6*l.* 10*s.* 5*d.* *per* acre.

"The pure Merino fleeces never sold at less than one guinea each; the average weight of which has been more than six pounds each, in the yolk; and on the above allowance of pasture for seven months, and turnips as above, in aid of that pasture, the return will amount to ten guineas *per* acre.

"At the last meeting of the Society, a paper having been read, as the report of a Committee appointed by the Society to examine the state of that part of the farm of Lord Somerville, which is appropriated to the feeding of sheep, the Society ordered that report to be printed, and sent to various members for their consideration, previously to the next meeting, in November, at which they were requested to deliver their opinions on the said report. A method of proceeding, so new to this Society, must have implied, not surely that the facts there stated, were incredible, but that the subject itself was so important to individuals and the community, that every circumstance relative to it could not be too thoroughly investigated, or too generally known. The Society will please to recollect, that this report is that of a Committee nominated by themselves, to examine Lord Somerville's claim to the premium, Class 4, No. 15, p. 45. which is offered to the stock farmer who shall have bred and kept, in the usual mode of husbandry in the neighbourhood, the greatest number and most profitable sort of sheep, in proportion to the size of his farm, in consequence of his having changed his sort of sheep from what had been usually kept on the farm, or on similar farms in the neighbourhood.

" In order that a breeding farmer may maintain the number of his stock, he ought to sell in the year no more store-sheep than will be supplied by his lambs. It appears, however, that Lord Somerville disposed of forty-six more than his proportion: that number should, therefore, probably be set in abatement of his profit for the year.

"The average price of the sale sheep having been 1*l.* 17*s.* 2¾*d.* the sum to be deducted will be 85*l.* 12*s.* 6*d.*

"We are now prepared to state the general account.

				£.	s.	d.
Wool				446	0	0
Store sheep sold				409	3	0
Fat sheep				238	16	0
Letting of rams				524	10	0
Turnips to two bulls				4	12	0
Total				1623	1	0
Deduct						
Keep of sheep	£.18	0	0			
Hay at 50*s.* *per* ton	15	0	0			
Diminution of stock	85	12	6—	118	12	6
This leaves a balance of				£.1504	8	6

"Which is 9*l.* 1*s.* 3*d.* *per* acre; or, if the 524*l.* 10*s.* for letting rams, be deducted, the balance will be 979*l.* 18*s.* 6*d.* which is 5*l.* 18*s.* *per* acre. If the allowance of fifty-five acres, for extra stock, as above stated, be thought too great, the return *per* acre must suffer a proportionable abatement.

"I must add, that the average value of Lord Somerville's sheep land, does not exceed 36*s.* *per* acre. From this view of all the particulars of the report, I am of opinion, not only that Lord Somerville is intitled to the premium offered by this Society, but that he justly merits the most grateful acknowledgments of his country.

"C. H. PARRY."

"14*th Nov.* 1804."

The second Essay which was given in on this claim, not being in print, I have great pleasure in being enabled to give it entire. No man is more competent to give an opinion in these points, than the writer, whether we advert to his ability or integrity.

"I had the honour to receive the report of the Committee appointed to investigate the claim of Lord Somerville to your premium, No. 15, Class 4; with a request that I would attentively examine the same, and furnish the next meeting with my observations. Having for some years had experience of the Merino breed of sheep, and the usual crosses of them, I am the less surprised at the result of that investigation, so highly favourable in profit to that particular sort of sheep. To the exertions of your Society, in that branch of agriculture which relates to the improvement of our clothing-wools, the country is likely, in due time, to reap the most important advantages. A project which, by many, was considered as a wild and fanciful theory, and which at first had to encounter the most obstinate prejudices, has been gradually and steadily advancing. The various specimens of superfine cloths and kerseymeres, manufactured from wool of British growth, which have been exhibited at several of your last annual meetings, have, I trust, been satisfactory proofs of the practicability of improving our native wools to a degree far surpassing what was expected in so short a time, even by the most sanguine. It had been, as I understand, a point long settled with the manufacturers, that superfine broad cloth could only be made of Spanish wool, and that any admixture of British wool degraded the quality of the cloth, and disgraced the manufacturer. To many, this seemed an alarming circumstance, and it surely was a matter of just regret, to find that the most precious fabrics of our grand staple manufacture depended upon the precarious supply of a foreign, and oftentimes a hostile country. To render this kingdom independent of a foreign supply, of so requisite and so valuable a raw material, must always have been a desideratum to the patriot, and the politician. In this point of view, it was an object worthy of your Society to promote, to the utmost of your power, so laudable an achievement. The efforts of Lord Somerville, Dr. Parry, and some other members of your Society, have been, I doubt not, duly appreciated; and you have seen, both in the wool and in the cloth and kerseymere produced from the Merinos, and their respective crosses, such articles as, ten years ago, no one would have admitted the practicability of raising on our soil, and under the influence of our climate. However, the patriotism of individuals, or even the efforts of a society like yours, would be able to effect but little in so extensive a design. To point out its utility, and to shew its practicability, would be all that could be expected in the early stages of the undertaking. Whatever benefit the country might derive from raising superfine wool for our own supplies, little could be expected to result from the theory, unless it should be made to appear clearly, that it was manifestly the interest of the individual to promote it. With a view to ascertain this, I presume your premium was framed; and, in this light, the report of your committee appears to be very important. To me, from my own experience, it is perfectly satisfactory. The South Down and Ryeland sheep, with which this comparison has been made, are, in my estimation, among the best races of the kingdom. The return of Lord Somerville's South Down wool was 5*s.* 6*d.* *per* fleece. My average has been, in general, not more than 4*s.* 6*d.*; that of my Ryelands about the same as his. In the year 1803, my sheep of the Merino and South Down, and of the Merino and Ryeland first cross, produced me an average of three pounds six ounces each, which brought me 11*s.* 6*d.* *per* fleece. My thorough-bred Merino fleeces of that year, twenty-six in number, weighed in the yolk five pounds thirteen ounces each, and sold for 18*s.* 9*d.* *per* fleece. This year, my pure Merino fleeces, fifty-seven in number, weighed in the yolk, three hundred and forty-eight pounds, which is more than six pounds *per* fleece. My fleeces of the first cross, weighed this year, three pounds eight ounces each. The present year's price of my wool I have not yet ascertained. It will appear, therefore, that the result of Lord Somerville's return from the different sorts of sheep, accords as minutely as distance of place and difference in management will allow.

“ In respect to the number compared to the extent of Lord Somerville's farm, they will appear to be placed very thick upon the ground. However, my own experience agrees very much with this result; and I have no doubt, making allowances for my other stock, but I have, this year, had equal numbers, in proportion to my means of keeping them. My flock consists of nearly the same numbers as Lord Somerville's; to the management of which, I find a man and his son, of ten years of age, fully competent. I have yet met with nothing discouraging in the propagation of this new race of sheep; on the contrary, they have far surpassed my expectation. Since the year 1801, they have done well in a sheltered spot in the vale of the Severn; and they are doing well in a high situation in the heart of Staffordshire. Since the year 1801, I have lost but three Merino sheep, one in yeaning, another, I believe, from old age, and one from a stoppage in the stomach. From the smallness of the number of this race in the kingdom, I should not think myself justified in making experiment of the hardships they would be capable of enduring: a little extra care would be well repaid in most of our native breeds. The very few Merino lambs I have lost, compared with the common casualty, is a proof of this. I have, this season, put four hundred and fourteen ewes all to Merino rams, and I am endeavouring, as fast as I can, to bring my flock to that blood, convinced of their utility, both in a public and in a private point of view. From the distance at which I now reside from Bath, I unfortunately am little acquainted with your transactions. Whether Lord Somerville has any competitor, I know not; but I think, from the report of your committee, that it will be difficult to find a stock farmer, who, in proportion to the size of his farm, possesses a greater number, or a more profitable sort of sheep. I am very sorry it is not in my power to attend personally; and I trust the Society will excuse the defects of this hasty communication. I have the honour to remain, Sir,

"Your obedient, humble servant,

"G. TOLLETT."

"P.S. The letting of the rams may, to some, appear a temporary rather than a permanent source of profit. However, from the price of Spanish wool, and from the interest which the country begins to take in this line, the rams are likely, for a long time, to be in great request. But, putting them out of the question, Lord Somerville appears to have made from his wool, and his store and fat sheep, as much as, I suppose, will cover two rents of the whole farm of 460 acres; but which return, in reality, has been made from 188 acres only. From the price of the store sheep sold, I should presume many of them were the draft ewes of the English breed; as ewe sheep, with any cross of Merino, would have unquestionably brought a higher price: so that, when the drafts come from that stock, if wool bears the present price, the profits will be considerably greater. I have now some two-shear wethers of the half breed, of South Down and Ryeland, that would weigh from twenty pounds to twenty-five pounds *per* quarter; they are decidedly better than the South Downs of the same age, that have been bred and kept with them; I think they have stood the climate of this country better."

"To the Bath Agricultural
Society, Nov. 9, 1804."

We ought, perhaps, to apologize for these details, which many may think prolix; but it must not be forgotten, that subjects of this nature are liable, beyond any others, to misconstruction; sometimes to selfish and wilful misrepresentation.

It was unfortunately and falsely conjectured, that attempts were made to prejudice the minds of the people against the long-woolled breed; on the contrary, by a caution against their adoption in soils and climates ultimately unpropitious to these breeds, essential service was done them. By attempting to prove too much, we are apt to prove nothing. Any man then, who studies wool-bearing animals, must with regret hear the advocates for certain distinguished long-woolled breeds assert, that they will do well on Snowdon, and prove on Plinlimmon; and yet such language has not unfrequently been held.

The dignity and utility of this subject, has been acknowledged in all ages, and in every corner of the civilized world; we love it for its own sake; and it is necessary we should do so, to endure with patience the unworthy treatment to which it too often exposes us. We shall never be induced to make it subservient to dirty, political intrigue.

To conclude this subject:—When we consider the different latitudes, which, from authentic documents, we find congenial to the finest-woolled sheep, the extremes of heat and cold from sixty-two degrees north, to thirty-five degrees south latitude, as Sweden, Denmark, Germany (for that also manufactures cloths of the very finest quality from Spanish sheep, long established there); as Holland, Spain, and the colonies inland from the Cape of Good Hope, where the wool of the Merinos has rather improved than degenerated; few men will hereafter venture to assert, that we, who are placed between both, cannot maintain, in all its purity, that which originally, it is said, belonged to Great Britain.

The author has frequently endeavoured to impress on the minds of the landed proprietors of Scotland, the absolute necessity of providing some rude, but secure shelter, for the flocks which range during winter on the moorlands and mountains; but his labour was of no avail. His idea was, supposing a tract of such land to consist of 1200 acres, to class it in two or three divisions, the best adapted of which to be preserved entire for winter-keep; not suffering it to be depastured at all after the month of May, in order to get a head of grass or sheep-keep of such quality as it may be, and on it to erect a rude and cheap circular building, similar to any of those before described, (*see* page 77).

On muirs of this description, springs rise in such numbers, as to produce many mosses or bogs; the quality of the herbage growing on these, is often good enough to be mown for hay. If the sub-soil be dry and without mineral impregnation, the water which flows through the soil, usually produces a green herbage, which in a high northern latitude, is not liable to infect sheep with the rot, as in the more southern districts. If drains were cut transversely or obliquely across these bogs, they will serve also as carriages, as the same water which before soaked through them, would be thrown over their surface, and produce a rapid and surprising improvement. This hay should be stacked near to the sheep-cot; dry earth, fern, or heath, being from time to time spread over the bottom of the cot, the sheep will have their bellies, when lying down, kept dry; and a great deal of excellent manure will be made, whilst the profit, as far as relates to the health and security of the flock, will be great beyond the conception of those who, residing in less exposed districts, know not the force of winds and snow, or the dreadful havoc occasioned by their combined influence.

Where low cultivated land is attached to a district of this kind, additional keep will, of course, be obtained, and the flock will be wintered on it; in this case also, the cot would be most beneficial. And in those mountain districts, it may be a question, whether the stock to be carried on them, if so treated, might not double or even triple in number the old stock, at the same time that immense losses would be avoided.

Having stated this in a plain and distinct manner, again and again, I contented myself with merely expressing a determination, to act on this principle, when the lease or tack of one of the farms of this description, in the Lammer muir in Berwickshire, consisting of 2400 acres, should expire, and said no more on the subject.

The grassy hills of Selkirk and Dumfries shires are far better suited to carry sheep, than the " heathery" or heath-growing muirs of Berwickshire; but although the quantity of sheep to be depastured *per* acre cannot be so great, still the effect will in proportion be the same: great in extent as the farm above-mentioned is, if my memory serves me, it carried only 300 black-faced highland ewes, and their produce, the lambs being annually sold off.

After some considerable time, this circumstance was brought to my recollection, by the celebrated Mr. Walter Scott, who says, 13th Feb. 1808, " There is a curious and rather interesting subject I have to mention to your Lordship. Do you remember dining at Ashestiel, with some farmers, when a good deal of conversation took place, about housing sheep during the winter? A few days ago, I received a letter from a person connected with one of them, covering a sort of treatise on the subject. It seems he had at first considered the plan as absolutely fanciful, but like most strong-headed men, he had dwelt upon it in silence for two years, and at length had seen its propriety; and considering the possibility with particular relation to the sheep-grounds of Selkirkshire, he has pointed out some local advantages, and obviated some local objections to an experiment. I should have liked to have sent this essay to your Lordship, and indeed he was desirous you should see it; as for me, I know no more of sheep, than I do of elephants; but there always struck me to be a degree of common sense and common principle, however contrary to common practice, in the plan of dividing a sheep-walk, and having places to house sheep on each division."

The young man writes thus: "I think it was once about two years ago, when you was at —— ——; you mentioned a plan of Lord Somerville's, that he thought would be a great improvement in sheep-farming. I have thought of it at intervals ever since, and although almost every person to whom I mentioned it, thought it very extravagant, as I likewise then did: yet I am now of opinion, that it is not only practicable, but would become highly advantageous in many situations, and perhaps at length of great national benefit. I have sent you some observations upon the subject, which I have put together after a good deal of consideration; and I request your opinion of the scheme, for I have found it of value upon all subjects. There is no person can be so much interested in the success of such a plan as the Duke of ——, for his high land is mostly all strong and grassy; therefore I wish the paper were shewn to —— ——, or his Grace, and I hope you will be so good as take the trouble of doing so upon some opportunity. I am almost certain, that his Grace will think it worthy of a trial, and I apprehend I have some right to be a candidate for carrying it into execution. If he does not, you will introduce me to Lord Somerville; for it would be folly in any farmer almost, to attempt such a thing upon his own character, and it would go near to overwhelm a young man, with the deluge of ridicule that would certainly be the consequence. For this reason, you will see the propriety of speaking to none about the matter, who would be apt to mention it in the country. I remain, Sir, with much esteem and respect, your most obedient servant,

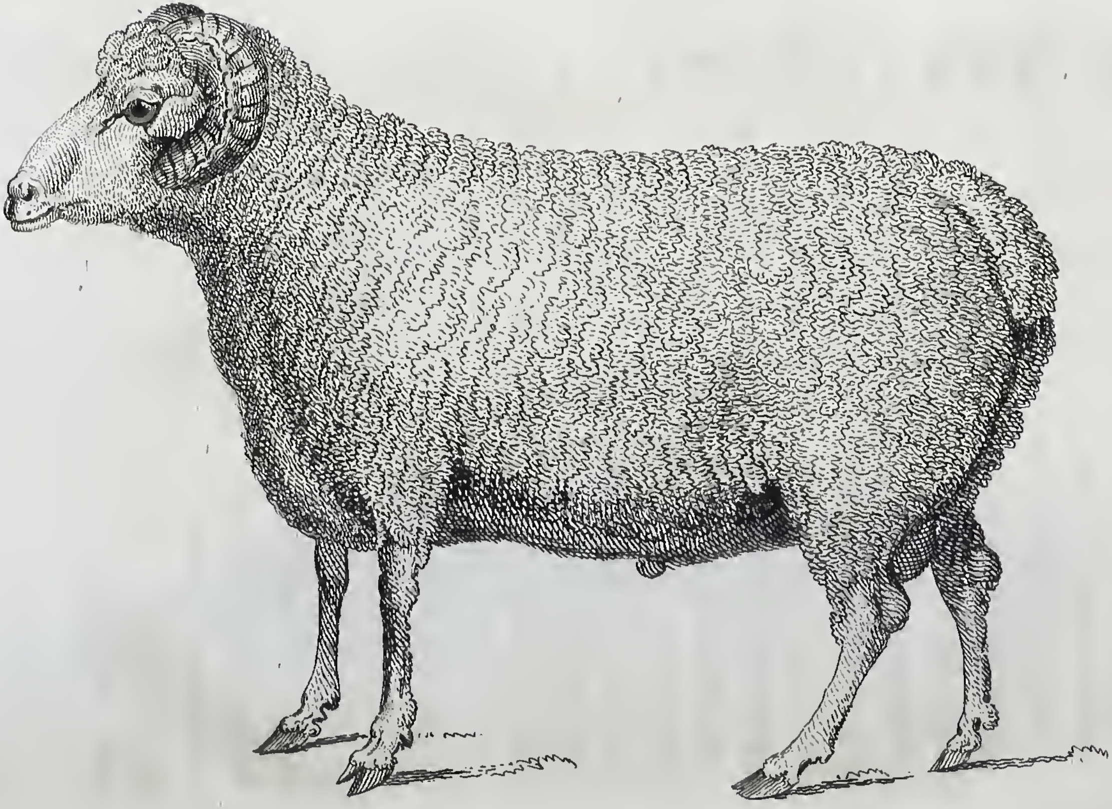
Jan. 4, 1808. "—— ——."

Again, in the course of three months, Mr. Scott recurs to the subject, 15th May, 1808: "Should you carry your Lammer muir experiment through, permit me most earnestly to recommend —— ——, as a superintendant. If you think that he is likely to be too expensive an overseer, I would endeavour to procure you the assistance of another, who is also an advocate of the penning system. It seems to be an essential point, that you should have a Scotch shepherd, acquainted with the customs of the country, where an Englishman would probably break his heart; and on the other hand, that he should be a person void of prejudice, and, from conviction, deeply interested in the success of the plan.

"Excuse the liberty I take in pointing out these circumstances to so much better a judge; sure I am, that the waste of animal life on our hills in this last spring, has been an immense loss, both to the farmer and the country. Your Lordship is most heartily welcome to use my letter as you please."

It may raise a smile to notice the circumspection this young farmer thinks it necessary to use; but thus it is, that every new proposition is at first received: fortunate, indeed, is that which, after a lapse of two, or even ten years, produces any visible effect. It is very sincerely to be wished that others, when open to conviction, would have the courage and candour to confess as much.

It would not be advisable to close this subject without reverting, after additional experience of five years, to such parts of the subject before discussed, as depend on experiment for confirmation or refutation. And it may safely be asserted, that what was expected to happen, has,



in almost, if not in every instance, come to pass; not only so, but the Merino sheep imported, being now seasoned to the climate, have, from frequent barrenness and want of milk, become regular in their period of lambing, and, their age considered, excellent as nurses.

It never was even surmised, that in their wool they would degenerate; but on the contrary, it was distinctly maintained, that it would become finer, and upon obvious principles; and there is not a shadow of doubt, that it has so been proved. Having studiously avoided any cross with other flocks, this proof may be considered as absolute; a judgment was not formed, from samples picked here and there, but from pieces of cloth annually exhibited, even to the present season, and in very considerable numbers, some of which were never exceeded in quality, and but rarely if ever equalled.

Let it not be supposed, that a conviction of the superiority of his own, which was made up from many different Trashumante's or travelling flocks in Spain, over other flocks of genuine blood, exists in the mind of the author. From one animal (*see* plate), he has drawn all his improvement; for whilst he was breeding from him, to obtain symmetry of form and early aptitude to feed, the Bath Society, as has before been stated, decided that his fleece was the finest which had ever come under its examination; and this attestation was confirmed within these few weeks, by an unsolicited and most candid declaration of Dr. Parry, that so perfect a sheep had never been imported into this kingdom. When others, in advancing the breed of this stock, seek a change of blood, which is sometimes necessary, they will know where to find it. Great improvement, it is universally admitted, has already been wrought in this breed, and much remains to be made; but it is unfortunate that those, whose lot, of necessity it must be, at first to embark in this speculation, are of a class who must commit that which they ought to support by every exertion, and watch over in person with unremitting attention, to the care of servants, for ever prejudiced against what they are not accustomed to. This is most disheartening, and bitterly tries the patience of those who know that success ought to be, but that disappointment will be, the sure result. But now that farmers have seen, and felt, and even *tasted* their way, the prospect mends; therefore it has been most gratifying to the author, that he has disposed of Merino sheep within these six months past, to five different farmers, who live by their professions, men eminent in their several districts; and in every case, success will assuredly attend their labours.

Too much attention cannot be given to the nature of the soil. Cold soils, more especially those which lie on a wet bottom or sub-soil, I consider to be more adapted to the long-wool breeds of sheep; but they cannot be deemed a safe layer for sheep of any breed whatever, more especially for the short-wool breeds. In propitious seasons, they may not suffer, such as in dry autumns, and summers not too wet and close; but in winter there is great risk, even with the sheep whose long wool and thick skins present the greatest chance of protection. It is impossible to avoid dwelling on this subject; it is most interesting to the public, for the mischief is suddenly caused, and most extensive when it does occur. There is an instance in the course of last autumn, of a flock of Cheviot wethers, rotted on the rich pastures of the vale of Aylesbury, which were bred on the Carter Fell, perhaps the highest, and certainly the wettest of the Cheviot hills; but thought to be incapable of rotting sheep, wet as it is, because a northern climate forbids a rapid floaty vegetation. Another instance occurred of a flock of South-Down ewes running in a gentleman's park, which died as they dropped their lambs: on being questioned by the author, if these sheep had depastured during last autumn on a part of the park lying beyond a lake of water, (which lake stands somewhat above the level of the land,) the proprietor admitted the fact, and at once saw the reason of the calamity. A farmer in the western part of Somersetshire, lost a whole flock of the Bampton ewes, which is a breed of sheep in size and quality of wool, much resembling the new Leicesters, with which they have long ago been crossed, merely by their feeding one night on a wet common adjoining his lands; all of them died as they dropped their lambs. Whether the disorder was a rot in the liver, or whether it was the red water or dropsy, does not occur to my memory, but the fact is well known.

In hot and rainy summers, I have seen these sheep removed by the owner, and without any delay, from high, but rich upland pastures, into drier land. The caution used in this case, made a strong impression on the author's mind; because this farmer is one of the best judges of sheep any where to be found, and had carried this breed to great perfection; and because this caution was productive of much inconvenience at the time. Few breeds of sheep, in this kingdom, are exposed to such severity of climate and keep, as the Cheviot sheep; the healthy properties also of the South-downs, are too well known to need description. Similar instances, almost innumerable, could be adduced; but these are sufficient to prove what is required.

It has fallen to the lot of the author, in a greater degree perhaps than any other person, to incur this risk in his own practice, by depasturing both store and fat sheep, of the finest quality of wool, on lands as rich as any in this Island; in a former edition of these essays, he stated the danger which might attend it.

By selecting ewes, neither too old nor too young, and by allowing about ten bushels of bean meal to every hundred ewes, which acts as a cordial to them, he had great luck in lambing; but as the lambs when weaned were sent off to a dry tillage farm, there to be wintered, the danger ceased: in the succeeding month of May, they were sent back able enough to bear the strength of the same keep, which, in the preceding summer, would have destroyed them.

The effect of this strong keep, is not a rot in the liver, but a dropsy, or "red water," as it is termed in some counties.—Lambs reduced by this strong feed, are not to be trusted, in the subsequent autumn, in turnips or even on clovers; nothing but the hardest grasses and dry fodder can restore them.

With a complete conviction of this risk, by the excessive heat of last summer, and the total want of sheep-feed on his tillage farm, which the author had just then taken possession of, he was driven to the alternative of sending his flock of lambs to his marsh land, or to let them starve where they were; for the same heat which destroyed his own keep, burnt up that of his neighbours also. The loss was great, as he never ceased to predict; but it was very much increased by the excessive rains which followed one of the hottest summers ever remembered; and by the great severity of the winter, at the same time, the store-ewes supported themselves uncommonly well, and the lambs dropped this year are in most excellent condition, and numerous beyond any former example, in proportion to the extent of the flock of ewes.

The extent of the loss this season arising from the causes above mentioned, throughout the kingdom, would perhaps exceed all credibility.

Craving pardon for preaching so much on one topic, I do most earnestly beseech sheep-farmers of every rank and degree, to bear in mind, that breeding ewes either very young or very old, cannot endure severity of climate or keep, like those of middle age, and that the shepherd must not spare his labour in the night time, more especially in severe weather, when lambs of the fine wool breeds are first dropped, for their wool is too short to protect them, during the few first days after yeaning, unless they are brought into some sheltered place.

On the Use of Salt for Sheep.

We are not aware, that the practice of giving salt in its raw state, is to be found any where in this kingdom, except on our own estate. We shall, therefore, speak with due caution on the subject, confining ourselves to what has actually been done, and to the effect which, in several years trial, has been most apparent. The heavy duty now imposed on salt, seems to be sufficient to deter others from its use, as it for some time deterred us. At length, we fortunately lost sight of this timidity; our motive was not to produce this or that imaginary effect, but to keep sheep in health. It was reasonable to conjecture, that the flock would demand more salt in the autumn and spring months, when dews are heavy, than in the summer or dead winter months; and so it proves.

In Spain, a thousand sheep use in five months, four arobes, or one quintal of salt, which is 128 lb. Their sheep would fat to about 13 lb. *per* quarter upon the average; this is the quantity given out, all of which may not be consumed; and as the price of salt in that country is no object, more would have been given, if more was necessary. Without reference to what was allowed in Spain, (for the increased moisture of our climate, and the peculiar properties of our various soils, would not allow such reference safely to be had,) the quantity given to our sheep was such as we have before stated would keep them healthy, or such as they appeared to demand. It is given in the morning when the sheep are looked over, in order to counteract the ill effect of the dew. They have consumed at the rate of one ton of salt for every thousand sheep annually, which, at the rate of 26*s. per* hundred, its present * price, amounts to twenty-six pounds sterling: at the same price the consumption of a thousand sheep might occasionally, but varying according to the season, amount to thirty pounds sterling *per annum*, and no more.

A small handful is put on a flat stone, or slate, and ten or fifteen of these slates set a few yards apart, are enough for one hundred sheep: at first the sheep may be moved towards them; if they feel a craving for salt, they will lick up quickly as much as is necessary; if they do not want it, what remains dry, when the sheep are next looked at, is taken up and reserved for future use. Twice a week has usually been found sufficient; in particular cases it may be offered thrice. As to any doubt respecting their inclination to it, none can be maintained; for, of a flock approaching towards 1000, there are not ten old sheep which have not taken kindly to it, and not a lamb which does not consume it greedily.

When turnips in the early season are stocked with sheep, and the greens rank and strong, many die suddenly, more especially young two-tooth sheep. The disorder is a pent-up wind, occasioned by excess of fermentation in the stomach; here salted hay, and salt, are devoured with a greediness, that denotes their salutary effect. The autumn of 1801 was rainy and unfavourable, yet we did not lose one sheep in turnips, and probably never shall, whilst we persevere in the use of salt. In that of 1802, we had many hundred fat wethers, gales, and hog-sheep in turnips, and lost about two during the first month the turnips were stocked; certainly the chances were, that in any keep, and in any season, of such a flock more might have died.

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* Price in 1809, 40*s. per* cwt.

In strong pastures likewise, when seasons are wet, the rot often spreads destruction over whole tracts of country; here salt must be beneficial, and an object of national importance. It is supposed, and with great truth, to correct acidity in the stomach, a disorder common to sheep even in Spain, but of a much more serious nature in the damp climate of Great Britain, more particularly when stocked on green floaty food, such as turnips, vetches, and young clover.

It may not be an absolute specific in land naturally unsound; such land it is madness, at any rate, to stock with sheep; but where the rot occasionally prevails, those who have carefully noted how salt affects cattle, can hazard little in supposing, that the disease will be much less heard of, when such a corrective is applied. We must content ourselves rather with a negative than a positive proof, because it is not easy to ascertain how many sheep might have fallen sick, or have died, which are now in health and alive; but it may be put to any flock-master, whether he would not consider himself a fortunate man, if at the expence of thirty pounds sterling *per annum*, he could materially improve the health and condition of a flock of 1000 sheep, weighing 14 lb. *per* quarter. His probable answer will be, that he would give double the money to secure to himself such an advantage.

When grazing on limestone soils, it is stated in Dillon's account of the Merino sheep, that sheep eat less salt; from whence it occurred to me, that chalk, which, though not so warming in its nature as salt, is fully as good in correcting acidity, might be a most beneficial substitute for it.

Chalk has long been given to fatting calves, for the purpose of correcting this acidity; and why not to sheep, and lambs, who are equally subject to it?

A gentleman, who farms near Tewksbury, in Gloucestershire, says, "You had suggested, that chalk might be substituted for salt; the latter being so expensive in this country when used upon a large scale; from the circumstance of sheep eating less salt when depastured in limy or marly soils, I was led to suppose that an œconomical substitute for pure salt might be made use of; with this view, I caused 12 lb. of chalk to be pounded, sifted, and kneaded in water, saturated with salt. This paste being put in a trough, and dried in the oven, is placed in one of the racks, to prevent the sheep from soiling it; to this, when in the fold, they have constant access, and I believe, they have received from it every benefit that could be wished; they lick it constantly, and the lambs shew an uncommon partiality for it."

We are all sensible of the effect of salt on the human body; we are told how unwholesome, and we know how unpalateable, fresh meat and vegetables are without it. The ancients held it in the highest estimation. "Omnis mensa malè ponitur absque sale." We also know the avidity with which animals, in a wild state, seek the salt-pans of Africa and America, and the difficulties they will encounter to reach them; this cannot arise from accident or caprice, but from a powerful instinct within, which, beyond control, impels them to seek at all risks, that which is salubrious. In Holland, the antient laws ordained men to be kept on bread alone unmixed with salt, as the severest punishment that could be inflicted in their moist climate: the effect was horrible, these wretched criminals are said to have been devoured with worms, engendered in their own stomachs. In Germany, we are told by Count Rumford, that salt is universally given to oxen and cows in a fatting state, and that their proof is proportionate to the quantity given.

In Sweden, in Saxony, in Silesia, and in France, salt is given to sheep: it is considered a most important article, and is strongly recommended. M. Daubenton says, * "Le sel leur donne l'appétit, et de la vigueur; il le réchauffe,

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* "Salt gives them appetite and strength; it warms them and promotes digestion; prevents obstructions, and dissipates superfluous moisture, the cause of many of their diseases."

et les fait digérer; il empêche les obstructions, et il fait couler les eaux superflues, qui sont la cause de la plupart de leur maladies." They want it most, he says, when they are languid, and out of order, which happens in fogs, in heavy rains, and snow. It is well known that hay, mouldy from rain, is rendered palateable and remarkably nutritious to cattle, by simply strewing salt on the stack, at the rate of 10 or 15 pounds *per* ton when making; equally notorious is it, that a sensible effect is hereby produced to the taste; that cattle will prefer it to better hay, well put together, and will demand, when fed on it, without injury to themselves, three times as much water; which circumstance alone accounts for that aptitude to fatten, which is conspicuous in hay so salted. It remained to be proved, how good hay, which had not spent its strength in premature fermentation, would bear such a quantity of salt as would invigorate the stomach, quicken the circulation of the blood, and excite in cattle a desire to drink largely; that it does bear it, and that the effect this hay has upon stock almost surpasses belief, we have ascertained. Some of our hay, lately in use, was of the first quality of sheep hay, the produce of rich and deep loam on a limestone bottom; it was put together without wet, and had 25 lb. of salt *per* ton sprinkled through a sieve, a greater quantity than has yet been used. In colour, flavour, and proof, it equalled any hay whatever, and satisfies us that this, or a greater quantity of salt, may be infused into hay of the best quality, and with the best possible effect.

In confirmation of these facts, we have also the authority of Mr. Darke, of Breedon, one of the most celebrated graziers in the kingdom, who has mixed salt with his flooded mouldy hay, 8 lb. of salt only to a ton, and declares that his Hereford oxen did better on it than others on the best hay he had; and that he was and is convinced, that the hay had all its good effect from the salt.

Salt cannot be conveyed into the animal in a more effectual manner, than by sprinkling it on hay through a sieve, when in the act of putting together; for every particle is imbibed in the fermentation, without a possibility of waste. It will, upon trial, no doubt prove a better breakfast, than those cold dews which prevail in this country, nine months out of the twelve; and which are more prejudicial to the wool and carcase of those feeble animals, than has been hitherto considered.

We venture no opinion whatever, on the propriety of commuting or abolishing the duty on salt: if it be moderated or abolished, so much the better for the farming world; if the duty remain, we shall persist in the use of salt, fortunate that we can obtain so great a benefit at so cheap a rate; and rather than forego its use, we do not scruple to declare, that we would give one hundred pounds *per* annum for every thousand sheep we possess, rather than be debarred its use, even at its present rate; well persuaded that we shall be most essential gainers thereby. It becomes a duty with us to say thus much, because an extensive adoption of the use of salt has a two-fold operation; whilst it benefits the landed interest, it adds also, in a most considerable degree, to the national revenue.

ON OXEN.

In treating with as much brevity as possible of the utility and importance of Oxen in husbandry labour, we may as well notice what Anthony Fitzherbert says, who is to this day called the father of British husbandry.

"Whether is better—a plough of horses, or a plough of oxen? It is to be known, Whether is better—a plough of horses, or a plough of oxen, and therin mesemeth oughte to be made a distinction.

"For in somme places, a horse-plough is better, that is to say, in every place, whereas the husbande hath several pastures, to put his oxen in, whan they come fro theyr warke, there the oxe-ploughe is better. For an oxe maye not endure his warke, to labour all daye, and than to be put to the commons, or before the herdman, and to be sette in a foulde al nyghte without meate, and go to his labour in the mornynge. But and he be put in a good pasture all nyghte, he will labour moche of all the daye dayely.

"And oxen wyl plowe in tough cley, and upon hylly grounde, whereas horses wyl stande styll. And whereas is now seuerall pastures, there the horse plowe is better, for the horses may be teddered, or tyed upon legs, balkes, or hades, whereas oxen may not be kept; and it is not used to tedder them, but in fewe places. And horses wyl goo faster than oxen on euen grounde, or lyghte grounde, and be quicker for carriage, but they be farre more costly to kepe in wynter, for they must have bothe hey and corne to eate, and straw for lytter, they must be well shodde on all foure fete, and the gere that they shall drawe with, is more costly than for the oxen, and a shorter whyle it wyll last. And oxen wyll eate but straw, and a lyttel hey, the whiche is not halfe the coste that the horses must have, and they have no shoes as the horses have; and if any sorance comes to the horse, or waxe olde, broysed or blynde, then he is lyttel worthe, and if any sorance come to an oxe, waxe olde, broysed or blynde, for iis. he may be fedde, and than he is mannes meate, and as good or better than ever he was. And the horse, whan he dythe, is but caryon. And, therefore, mesemeth, all thynges consydered, the ploughe of oxen is much more profitable than the ploughe of horses."

It must not be forgotten, that this comparison was made, when oxen were not shod, a circumstance which makes the whole difference in their work on roads and pavements, as well as on an active class of cart-horses most unlike that of the present day. He lived in the reign of Henry the 8th, and from that time to this, those who have most carefully considered the subject, have ever been of the same opinion.

Fears have prevailed, that labour is injurious to the growth of cattle; we have had proof on proof, and pledge ourselves, that they are unfounded; if young stock are well kept, as every good husbandman will keep them, whether they work or lie idle, muscular action not overdone, must produce muscular strength, and growth will be the result. Look at the well-fed servant in a farm-house, or at the ploughman, and compare them with the mechanic; with one who works at the loom, or in short, who follows any sedentary trade, possessing ample means to be well fed, that is to say, earning in four days enough to enable him to lie idle the other three days of the week; and no man will longer entertain a doubt on the subject.

A query has been proposed, whether oxen do not poach heavy land more than horses? To which it may be replied, that the foot of the horse being concave, the consequence is an adhesion or rather a suction, which impedes his action very much, and from its form must necessarily compress more than any other shape whatever. Now the foot of the ox is cloven; it enters the land distended by the weight and action of the animal, and comes out contracted, by which its egress is comparatively easy, and consequently the labour or exertion diminished, and the injury done to the land is less. In proof of which, let horned cattle wander in boggy and unsound land as much as they will, and there is hardly an instance to be found of their sticking at all, where horses would infallibly require to be drawn out, or would be lost in it. This results from the formation of the feet, and is a conclusive argument as to the aptitude of horned animals to labour on deep land.

With respect to their capability of carrying on road-work, I have to observe, that my own oxen do a very great deal of work on the road. We carry much lime for manure; we drive at the rate of 20 hogsheads, i. e. 100 bushels, Winchester measure, *per* acre. We carry as much dung as we can, and considerable quantities of timber; in addition to which, our farms lie much divided, which makes a most essential difference in labour, and the roads are stony beyond measure. The general practice of the county, is to work oxen on the road, some more and some less; so it is even in the most hard and stony districts, as in Glamorganshire, in Herefordshire, in Sussex, and in the East Riding of Yorkshire. The timber-waggons which carry timber from the vale of Pickering, in Yorkshire, to Scarborough, usually work two oxen and two horses; the oxen do not work before to assist the horses, but in the timon or pole behind, and on them, therefore, the dependence is to conduct great loads in very hilly and stony roads; a decisive proof that they can bear road-work, even of the severest nature. The mode of harnessing oxen, and the construction of the gear as in horses, must be familiar to the eye of every man, and therefore needs no description.

The power of Portuguese oxen in draught, more particularly in the streets of Lisbon, has oftener been a subject of surprise to strangers than of admiration, as it ought to have been:

heightened also, as in the instance just mentioned, by the deformity of the tumbrel they draw. The principle of draught in which, is a joint power of the neck and base of the horn, a purchase as great, perhaps, as can be given to the animal. This is effected by a long leathern strap, which is wrapped round the yoke, from thence, round the base, or bottom, of the horns, and again fastened to the yoke.

The first observation made by an English carter, on the Portuguese mode of draught, was, that it would steady the heads of cattle in drawing, thereby rendering them abundantly more tractable, and easy to direct; and it was perfectly just. The whole draught labour of Lisbon is carried on solely by oxen, which follow the carter, and so carefully, as seldom or never to run against each other, however narrow and steep the streets may be. In that country, oxen are worked single in carts; the additional frame by which the ox works, is made fast to the shafts of a horse cart by three nuts and screws on each side. It is simple in its principle, almost beyond example, is trifling in expence, and fitted on in a very few minutes; it may therefore be strongly recommended to general notice.

Fig. 2.

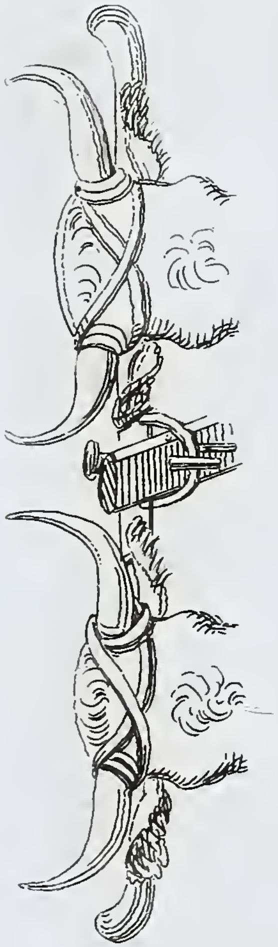

Fig. 1.

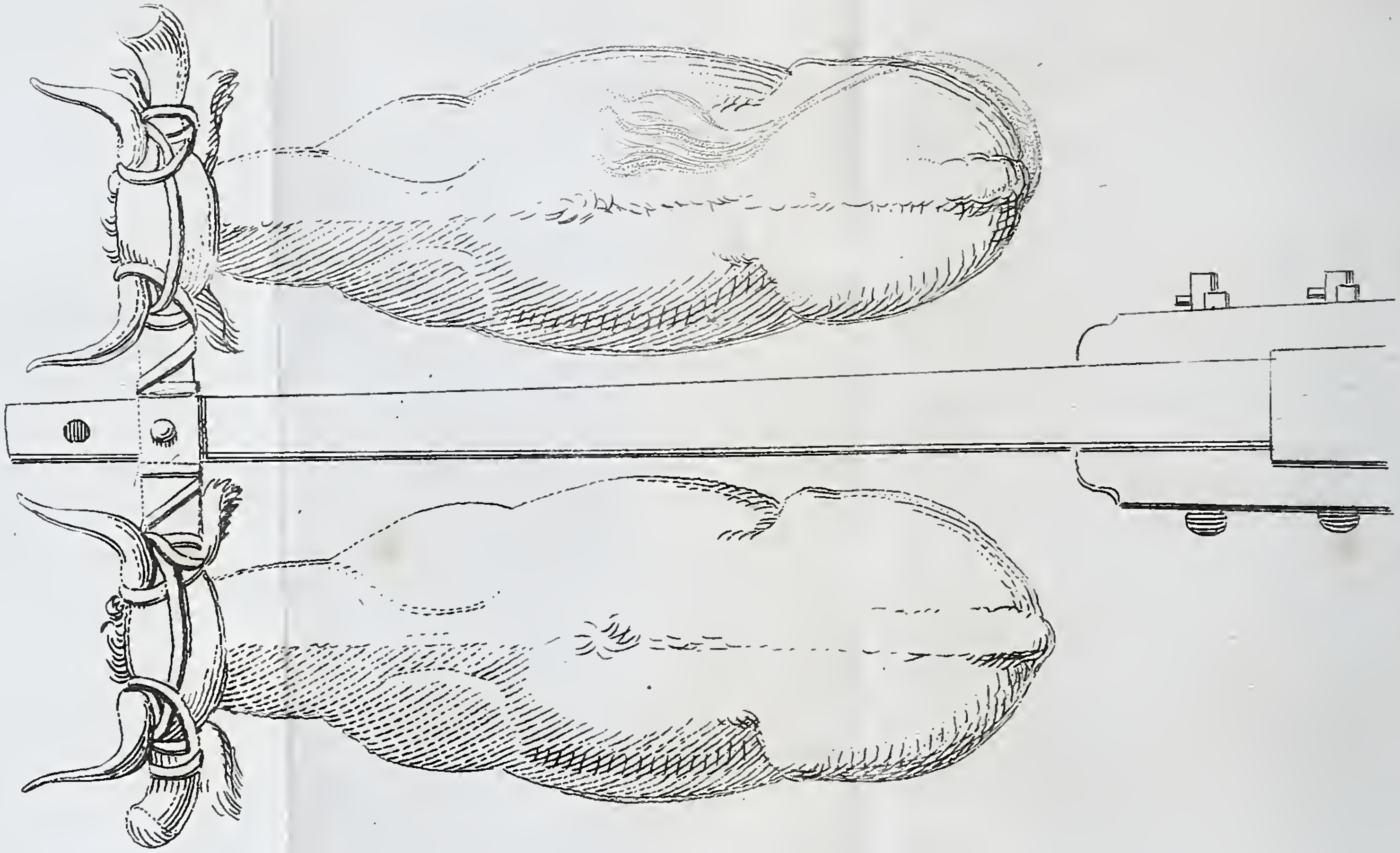

Fig. 3.

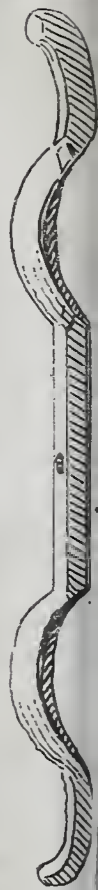

Fig. 1. French Method of Yokeing Oxen.

2. Front View of the head of the Oxen.

3. Side View of the Bow.

Before we proceed to the comparative power arising from the different modes of draught, as applicable to oxen, we beg leave to disclaim any preference of one mode to another, being fully persuaded that, whether worked in harness, or in the yoke and bow, as in England, by the joint power of the yoke and horn, as in Portugal, or by the head, as in France, they cannot fail to benefit their employer. As, however, the yoke and bow has prevailed for a considerable length of time, (for the Scripture says, "I have bought five yoke of oxen, and I go to prove them,") it is probable that the practice may still prevail; in which case, the Portuguese mode of draught will apply with the utmost ease and success to our yoke and bow, so as gradually and imperceptibly to cheat oxen into its use.

This in itself is an obvious advantage, because it gives two points of draught instead of one, and thereby relieving each, admits of a lighter yoke, which, in this country, has ever been far too heavy and oppressive. If, hereafter, the French method should be preferred, (which differs but little, if at all, from the Portuguese mode, above mentioned,) for which there are not wanting advocates, it is the best preparatory step to its introduction. It would be almost superfluous to remark, that the strong points of an ox are in his head and neck. It is ordained by nature, that where the strength of an animal lies, there he will resort for defence; the horse to his heels, the man to his arms, and the ox to his head; and in cases of the greatest exertion, the ox always puts his nose close to the ground.

The author, on a former occasion, hinted at a cart, for two oxen, capable of carrying 45 cwt. but aided by every advantage of iron axletrees, well greased, wheels of a just height, so as to present the best point of draught, and the cart to weigh about 740 lb. Any man who doubted the power of two oxen to be equal to such a weight, would convince himself, in the streets of Lisbon, that it can be, and is done every day. The resistance arising from a body of friction, such as is there to be seen in the axletree, fixed to, and turning with the wheels, or the precise weight of a load, would probably set all calculation at defiance, for weighing machines, and turnpike roads do not exist. It was, however, ascertained in one instance, where the contractor for beef regularly delivered the given quantity of 20 cwt. The nature and value of the load was sure to ascertain the accuracy of its weight. The circumference of the revolving axletree is from twenty-two to nineteen inches, in proportion as it is more or less worn. The body of this cart weighed about 9 cwt. and was supported on the axletree by two stays, five inches wide, which clipt the axletree behind in the same proportion as it does before, amounting to about half its circumference.

The yoke of oxen which constantly worked it, were not larger than a yoke of the North Devon, or small Sussex breed. The pavement is not very smooth, either in the streets or the roads, for all is pavement, but more steep than can well be conceived. Under these circumstances, we are to consider the load, which is 20 cwt. the cart 9 cwt.; the "timon," or pole, as well as the body, is also most clumsily constructed. This 29 cwt. did not move, as in this country, on iron axletrees well greased, but on 100 square inches of timber, exposed to dirt and gravel, without grease. The weight of such a load, with such a friction, is so infinitely greater than upon our principle of wheels, as to render, as is before stated, all comparative calculation useless. Certain it is, that the author has repeatedly seen loads heavier than this, but he adduces this instance because he knows this statement to be correct. It is a rare thing to see in the streets oxen low in condition; and, though pasture grass is unknown in the country, they are generally kept in the highest order possible, almost fit for the butcher; except when very old, for they are worked to a great age; yet their feet rarely suffer, notwithstanding the great exertion such heavy loads and steep streets require.

The author did not profit so much from such an example, as some would have done, for he was bred in a country where farming business is very much carried on by oxen; and for this plain reason, that the breed of his native country is well adapted to labour. Let those who maintain that oxen are unfit for road-work in England, consider well these plain facts. It is not the attempt of a capricious individual, practised to-day and abandoned to-morrow, but the established system of a nation; and in the instance above cited, at Lisbon most successfully carried on, under a pressure of circumstances at first sight adverse.

The commercial business of sea-port towns, in some parts of our own kingdom, is carried on by oxen, as it was at Bourdeaux some years ago, and is said to be now at the Cape of Good

Hope; indeed wherever a good breed of oxen exists. Where a coarse, inactive breed prevails, the whole country must have recourse to horses. The most valuable breeds of oxen at Smithfield are also the most approved for work, because of a size well adapted to labour. The Hereford, Sussex, Devon, Glamorgan, and Pembrokeshire oxen, maintain their ground against that innovator the corn-eating cart-horse, and will continue to do so.

The rapidly increasing excess of our imports of corn beyond our exports, will most probably impress this opinion on the minds of all men, in a still greater degree than heretofore.

It is a circumstance to be remarked, that the breed of heavy cart-horses began to prevail about the year 1754, and is to this day progressively spreading itself over this kingdom, trespassing, in many instances, on its natural inhabitant the ox. About the very same year, our exports of corn began to slacken; and they have kept pace nearly together. In the year 1774, these exports, except in an instance or two, altogether ceased. From that time the import commenced, and has increased to this day, together with the use of overgrown cart-horses to a most alarming degree. Such a concurrence of facts and dates may at first surprize, but will lead men to reflect most seriously. We are told, in Kent's Report of Norfolk, a well farmed corn-county, that, on an average of three years, the import of oats in that county alone, exceeds its growth by 15,389 quarters, (eight bushels); nor is there a waste by idle mouths, for the horses of that county are an active race, two only working in a plough, an economical and vigorous system of husbandry. If it were otherwise, the balance would be fearful to record.

The number of cart-horses employed in Great Britain, has been stated by Mr. Pitt, of Pendeford, Staffordshire, to be about 500,000, of which we are ready to admit that 200,000 may be useful, the remainder absolutely superfluous. These 300,000 consume, at a very moderate calculation, for nine months out of twelve, one peck of corn *per* day each, that is, 63 bushels each *per annum*. At 9 lb. *per* peck, and wheat at 15lb. *per* peck (60lb. *per* bushel) the fair average weights, 63 bushels of oats equal nearly 36 bushels of wheat. A quartern loaf, weighing 4lb. 5oz., some may think too short an allowance *per* week; to a labouring man, in health, it probably may be so; but upon the average of the whole mass of population, this calculation is generally thought to be correct; at this rate, fourteen quartern loaves work up a bushel of wheat; but two loaves may be allowed for bran and waste in grinding. Twelve quartern loaves remain, which, at one loaf *per* week, make four bushels and three quarters to each person annually. In Scotland, indeed, where oats are the food both of men and horses, this comparison need not be drawn. A man, with a wife and four children, requires on an average about four pecks of good oats *per* week (10 lb. *per* peck), 208 pecks, or 52 bushels *per ann.*; a labouring horse a peck and a quarter *per* day, for eight months in the year—280 pecks, or 70 Winchester bushels *per ann.*

It appears, therefore, that one cart-horse moderately, or rather immoderately fed, consumes more than the corn or bread of seven persons; so that 300,000 cart-horses consume annually, as much or more than 2,100,000 persons; which, admitting the population to be ten millions, is more than a fifth part of the whole. Here then is a loss of more than ten weeks consumption of the whole kingdom. Admitting the import to be equal to six weeks, there will remain for export one month's consumption, or one twelfth of the whole produce, to say nothing of the supply of beef arising from the substitution of oxen, which of itself would make a very great difference. This calculation is formed from the datum of Mr. Pitt (then a great advocate for horse labour), that we have 500,000 cart-horses; and as the argument was not adduced to serve the author's proposition, but the reverse, should any error be found, it would be more likely in his favour; that is to say, the number of cart-horses will more probably exceed 500,000 than come within that number. Not only in this point of view is the effect visible, but the extravagant adoption of this animal cuts both ways; for whilst he eats us up, we do not eat him.

Some will, perhaps, say that this argument does not apply, because we are more in want of corn than butcher's meat; but the price of one, influences the price of the other, with very few exceptions: "down horn, down corn," says the proverb. As an article of food, the preference has long been given to the ox rather than the horse, the prejudice being strong in favour of roast beef, and there is every appearance of its continuance. Should the taste of the public vary in this particular, a part of these objections to the cart-horse will lose their effect; still we suspect it will appear, that it is an animal too slow for the general purposes of husbandry. Any horse, heavier in frame than the London coach-horse, or a well-bred Suffolk punch, is too unweildy for carriages, for the purpose of drawing artillery, even for broad-wheeled waggons, as it now appears; and for every purpose of husbandry, rolling excepted. We see this fact acknowledged by the superior practice of many counties; Norfolk, Suffolk, and Yorkshire, for instance, and in every part of Scotland.

The cheapness of work, local circumstances considered, will ever evince the merit or demerit of a system. It cannot be denied, that this animal has encroached on the more useful class of horse, and on the ox; it gratifies our vanity, and consumes that portion of our food which would otherwise place us above want.

The abatement of our exports in 1754, and the introduction of cart-horses in the same year, must induce every man to draw some conclusions from such a singular coincidence of circumstances.

The statement of facts, like these, must invite conclusions, obviously tending to lessen the number of cart-horses throughout the kingdom. Bounties have been given to encourage the growth of various produce; they may also, with certain exceptions, be given to aid those counties which, at first, from local circumstances, will be deranged by such an alteration. In other counties, on the contrary, where horse labour is expeditious, and consequently cheap, it would not be adviseable to disturb the established usage, more especially as light horses must be bred for the cavalry and artillery, for riding, and for machines, as well as for post work: we allude in a most particular manner to the county of York, because its husbandry is much carried on by light active mares, whose produce is of great value to the community. Also, to Suffolk and Norfolk, because their native breed of horses (the punch) is light and active; in each of these counties, the labour is done with a pair of horses or mares only, in a plough. Another reason is, that no good breed of working oxen is yet to be found in Lincolnshire, or the adjoining breeding counties. Considerable part of Scotland stands in the same predicament; and the author, in his own practice, conforms to this principle, his husbandry in that country being carried on by few in number, but active and powerful horses, bred in the west of Scotland. But it may be right to suggest, that the Pembroke ox possesses many of the excellent properties of the west highlander, but on a larger scale; and as, the difference in size excepted, they much resemble each other in character, it is obvious that should it be required, from the great price of work horses, or a difficulty in procuring them, to advance the west highlander to a size capable of labour; it may be done in the more tempered and sheltered situations, by better keeping in the early stages of growth, whilst those of inferior size will come to feed at an early age, as before.

The increased demand for working cattle, will be a bounty, and an immense one hereafter, to all the breeding counties whatever.

A most successful example is here set us, and on a great scale, by him whom every man should be proud to follow. By reference to a correct statement of the comparative expence between his Majesty's horse-teams, as once used, and the Hereford, Devon, and Glamorgan ox-teams, during the year 1797, it appears that, of 65 horses, and of 107 oxen, there is a balance in favour of the latter of 513*l.* 15*s.* 6*d.*; or, on the same comparative average statement of each animal singly, the horse at 20*l.* 9*s.* *per annum*, and the ox 7*l.* 18*s.* 6*d.* *per annum*, there appears a balance in favour of the ox of 13*l.* 0*s.* 6*d.* not to mention the difference in favour of oxen in the prime cost, and wear and tear of the tackle, if worked in yokes and bows; the casualties and ailments to which horses are more peculiarly liable; the little attendance required by the ox; and the consideration, that if an accident happens to the horse, he is worth no more than his skin; whereas, in this case, an ox in any tolerable working order, is ever worth half his former value. I have never found his Majesty's oxen otherwise than in good working condition; an instance rarely to be found, except in countries long habituated to their use; not a single horse being employed in so great a concern, the road work and labour must be systematic, often severe; where fifty three-year old steers are every year brought into labour, at the age of four and five working hard, and at the age of six years fatted off; if expence is to be saved in tillage husbandry, it must here be found. It is a subject on which too much cannot be said, an example which cannot be too quickly followed. It is for ever before us, but too often superficially and selfishly discussed.

If any additional information can be derived from the long continued, and, it cannot be denied, successful practice of a private individual, I may add, that, with exception to one team of cart-horses, at the rate of one horse to every hundred acres of land, our whole labour is done by four teams, four oxen, or steers, in each; three of which teams, with great ease, work ten acres each team *per* week, resting two days in it, and would do more when occasion presses *; a rate of labour which must induce those who work horse-teams to give this matter most serious consideration, because it can carry on, with regularity and profit, a very great extent of business; for it must be remembered, that the wheat-sowing of the autumn, the oat and barley-sowing of the spring, the turnip fallowing until midsummer, and the harvest, not only do not interfere with each other, but frequently admit of leisure days, which cattle not over-worked, seldom fail of turning to excellent account. When they are in labour, they pay;

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* The three-year old steers, which are yoked up, when the six-year old oxen are turned off to be grazed, cannot be supposed to work equally with those seasoned to labour; yet, from the scarcity of store-oxen, our labour has been done at this rate, by steers of this age for several seasons.

when they lie by, their growth is a certain source of profit*.

As to the question, whether oxen are liable to be lamed as horses; we trust the following is a satisfactory and decisive answer. In the eigh-

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* The expence of four oxen, a man, and a boy, for 52 weeks, commencing 1st January, 1808, are correctly stated below:

	£.	s.	d.		£.	s.
6 Cwt. hay, at £.6 *per* load,	2	—	—			
18 Trusses of straw, at £2,	1	—	—			
Turnips	—	7	—			
Man, 5 days	—	12	6			
Boy, 5 days	—	5	—			
Expence for one week	£.4	4	6	for 22 weeks	92	19
Clover, vetches, and other green food	1	—	—			
Man, 5 days	—	12	6			
Boy, 5 days	—	5	—			
For one week	£.1	17	6	for 30 weeks	56	5
					149	4
Deduct increased value of 4 oxen, at 30*s*. each					6	—
					£.143	4

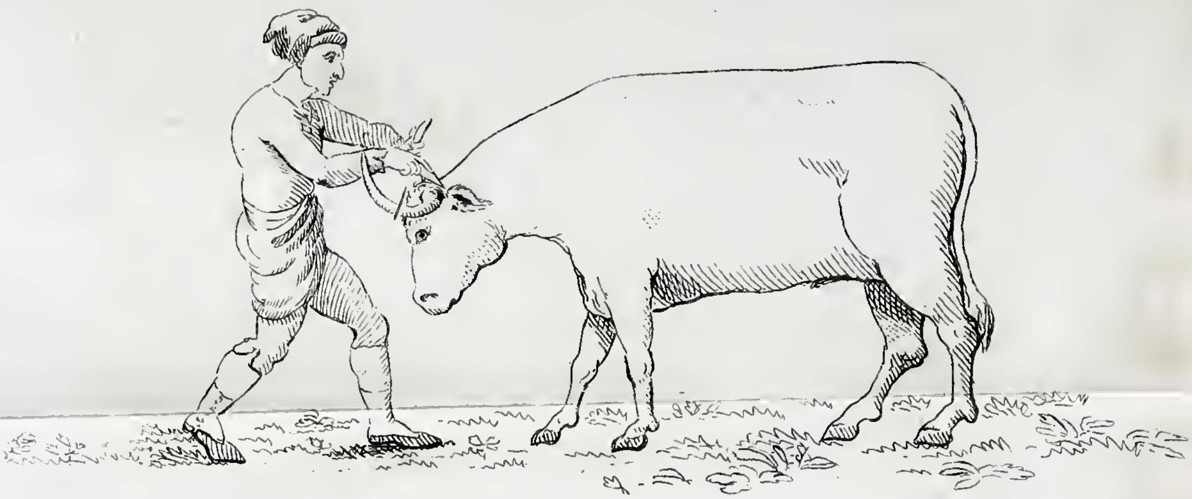
Four Oxen Dr.		Contra Cr.	
To keep one week at 143*l*. *per annum*	£.2 15	By 10 acres of land ploughed, at 5*s*. 6*d*. *per* acre	£.2 15.

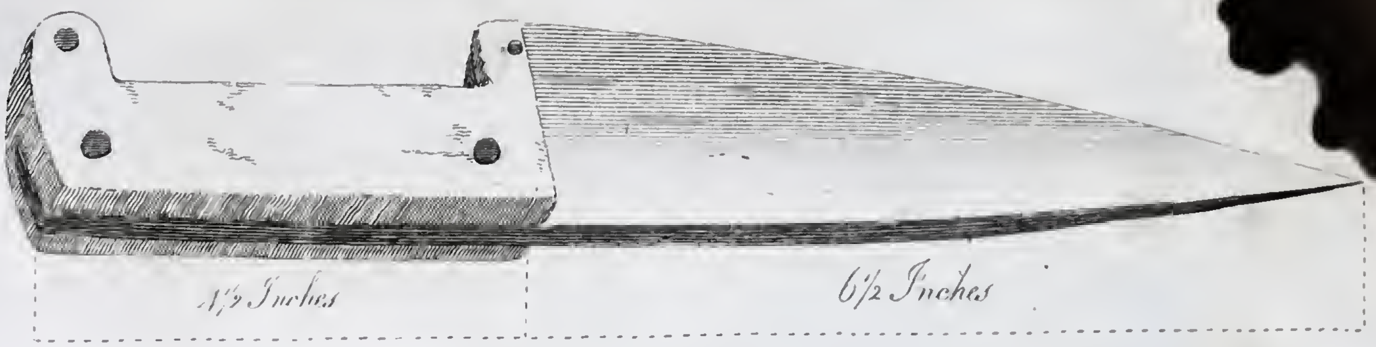
teen years I have worked them, I can hardly remember where any one ox has been laid by, from lameness, for forty-eight hours together; and if an instance has occurred, it has occurred very rarely; nor do I remember to have lost one single ox or steer in labour, or ever had to replace one which failed in work.

The most common causes of temporary lameness in oxen, are slight strains on stony roads, or a stripping between the hoofs, similar to the foot-rot in sheep, and probably arising from the same cause, namely, the corrosive properties of the strong dews which fall towards autumn.

It had been a favourite object with many to introduce into this kingdom that mode of slaughtering cattle by a division of the spinal marrow, which is practised in many parts of the world, and with all possible success, as well on the score of humanity as expedition. The term itself, "to lay down cattle," bespeaks the mildness with which it is executed. The author, therefore, when in Portugal, made it his business to have a person instructed in the use of the knife, which is represented in the plate, and is used for this purpose with great adroitness. An idea prevails that there is much cruelty in the use of the English axe; but it rarely happens that a bullock is not stunned, or that he does not fall, after the first or second blow; the idea, however, does exist, and therefore the practice ought no longer to prevail, when a better may be so readily substituted. It sounds as if "knocking down" was a movement as rapid in effect as "laying down;" but in this case it is far otherwise: for the fall is instantaneous; so much so as sometimes to alarm those who look on; the animal, at the first touch of the spinal-marrow, being unnerved from head to foot.

The person alluded to has "laid," without being head-lined, fifteen oxen in a row, with more regularity and expedition than would at first, perhaps, be credited. Holding them only by the horn, in the left hand, standing in front of the animal, and passing the knife over its brow, between the vertebræ of the neck, into the spinal marrow. The practice, in that country, of the carter walking at the head of his oxen, when at work, may probably induce them to stand quieter than would otherwise be the case; should that be the fact, cattle in this country may be head-lined as usual, and the operation then is as safe as it is easy.

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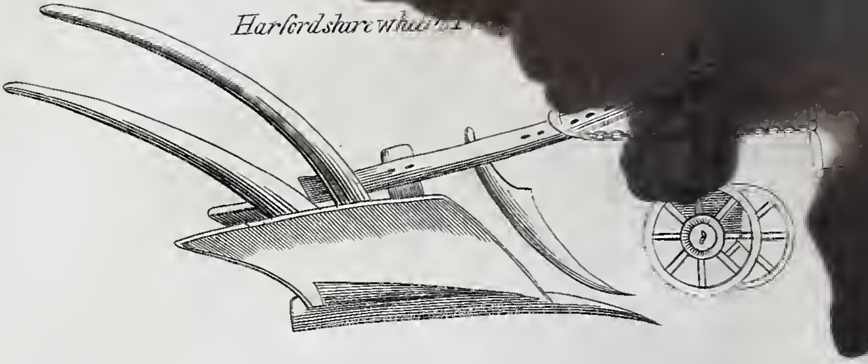
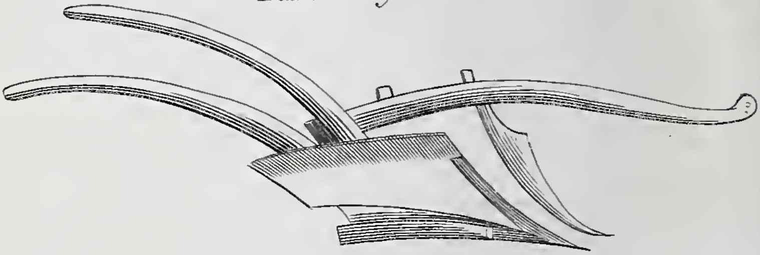
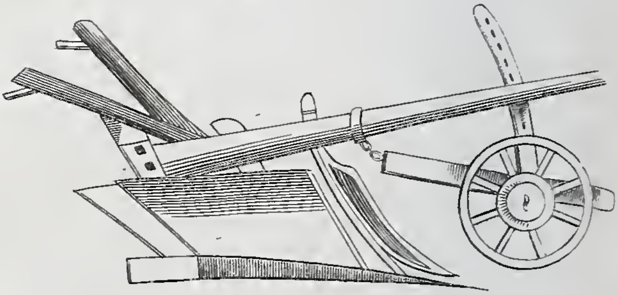
Harfordshire whe[illegible]



Plaine Plough.

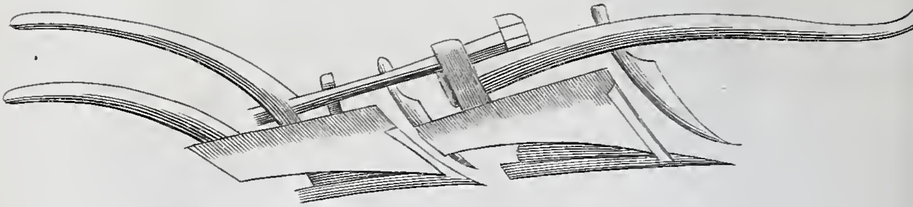


Single wheel'd Plough.



The double Plough

Ploughing two Furrows at one time.



ON PLOUGHS, &c.

So much has been said on ploughs, and so much written on their formation and effect, as to render it unnecessary for the author to go over beaten ground, and to describe ploughs which others have treated of before; but he thinks he may render his countrymen some service, and save those who search after improvement much trouble and confusion, by giving a copy, or facsimile, of ploughs then in use, taken from a treatise written by Walter Blith, about the year 1653, by which, at once, we perceive how little originality of invention or improvement has been manifested in the greater part of the swing and wheel ploughs, constructed within the last hundred and fifty years. Two or three exceptions there are, which shall be immediately noticed.

This stagnation militates nothing against the implements themselves, now in use, but much against the numberless fancied improvements of modern authors. If all had written like Duhamel, or even like our countryman Small *, or if all those who have written had studied the subject where only it could be studied, namely, in the furrow, this confusion would never have arisen.

Two inventions in the construction of ploughs, however, remain to be noticed, which have really borne the test of practice with credit and success.

The first, Mr. Tugwell's, the Beverston single-wheel plough, the principle of draught in which, although expensive in the iron work, is

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* The cast-iron plate used by this ingenious ploughwright, has been much talked of, but, on examination, it will appear that it cannot differ, in any material degree, from that described by Walter Blith, in the swing plough, (see Plate); but there is an admirable improvement, made by him, in the wood-work, which has escaped notice. The ancient form of ploughs was such, that any pressure on the handle tended to disjoint and weaken it. Small, however, contrived to mortise in his handles lower down, towards the heel, and otherwise, so to construct his joints as that the handles, which form a great lever, when in action, tended, on the contrary, to strengthen and bind the wood-work together; this circumstance was well known to M'Dougall, by whose recent death the public has to regret the loss of the best field-mechanic that, perhaps, existed in this our time.

most effective; his point of draught is perpendicularly above the point of action, namely, the throat or breast, where the share fits on. This plough has been much countenanced by the Bath Society.

The second is the production of that most excellent husbandman the late Mr. Duckett, of Esher, in Surrey; it is called the skim-coulter plough. The principle is most simple, and therefore most valuable; it is borrowed from the practice of trenching used by gardeners, that is, of turning one spit of earth first, and then a second upon it, by which means, that which was first turned down, lies rotting, undisturbed by any operation on the surface. The skim requires a perpendicular direction, and the coulter-hole to be further removed from the throat and share; because, in the common position, it would choke when at work. In thin and sandy soils it is more particularly useful, because it cuts off the greater part of what is on the surface, at the depth of an inch, or inch and half, that it may rot, and so enrich a future crop, giving thereby increased depth of soil to every subsequent course of crops, and acting often as a pan or support to keep up manures in circulation; it being esteemed a great misfortune in such soils, that they run through.

There is one other novel principle in the formation of our ploughs, of which I shall endeavour to speak as sparingly as possible, because it is my own invention. Having made some amendment in the cast-iron plates, and having rendered them moveable, (by which last improvement they are admirably calculated for double-furrow ploughs,) and having designed them for single-furrow ploughs, of every description, I found myself under the necessity of taking out a patent, by which means alone the form of the cast-iron mould-plate can be preserved from piratical and deceptive imitation; any deviation from the original form, however trifling, might materially affect the turn of the furrow, and, without doubt, any additional obtusity or thickness in the breast and throat, must, of necessity, add very much to the weight of draught. In proportion to this obtusity will be the increase of weight. Nor should we forget another consequence attending this bluntness in the breast, namely, a broken and ragged furrow; this is a fundamental error in many ploughs, both of English and foreign construction, whose object is to plough for broad-cast crops, although better suited to drilled corn. Yet, to prove how long ago it was known and prohibited, I take the liberty of quoting a passage from the above-mentioned Walter Blith, which treats of the construction of ploughs. I have the more pleasure in giving an extract from the book, because it is as scarce as it is valuable.

He says—"Before I proceed in this discourse, I shall lay down these two or three maxims, or conclusions; first, that whatever moveth upon the land, or that worketh in the land, or carrieth the least earth, or weight with it, must needs move or work the easiest: a plough, the more earth or weight it carries with it, the more strength must be required; the natural furrow it must carry; but the lesser compass, both in height and length, it bears upon the plough, the easier the plough must go; the more naturally any thing moves, the more easily; and the more artificially, the more difficultly: the sharper or thinner is any tool, the easier it pierceth, and the less strength it requireth; so, contrarily, the thicker or duller any tool is, the more strength must work it.

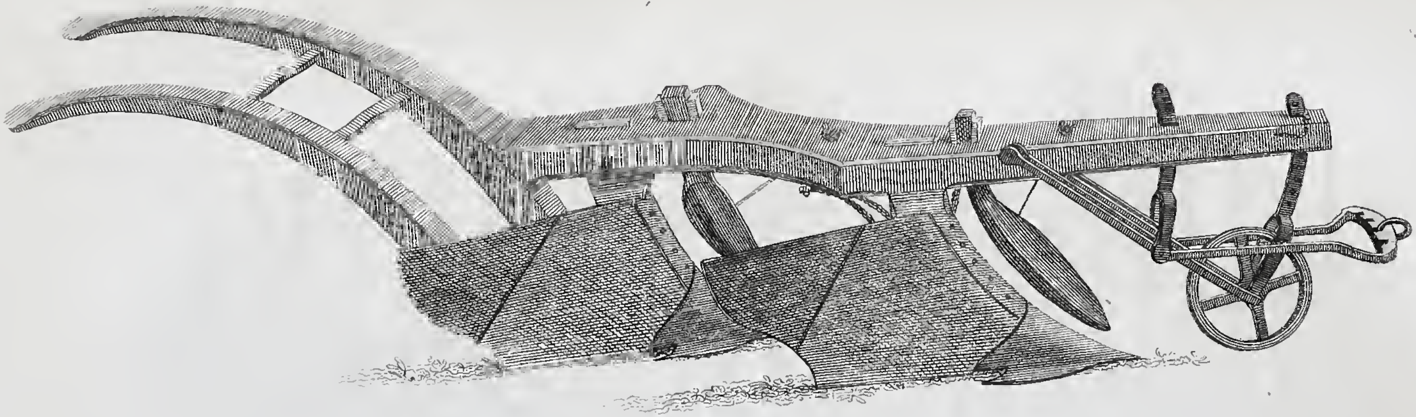
"As for giving an addition of ease unto an ordinary way of ploughing, and the taking away of some of the strength which is so great a burthen to the husbandman, is a very vast concernment, and will take a very large discourse; the effecting whereof I shall endeavour under the following heads. First, to discover several abuses, or hindrances, to the well going of the plough, with some remedies thereto. Secondly, to give you the descriptions, with the figures, of several sorts of ploughs now in use. Thirdly, to consider wherein the chief ease of the plough consists, with the easiest going plough, and the advantages gained thereby. Fourthly, to discover to what sorts of land, and seasons of ploughing, each plough is most suitable, with a double plough, yet unknown, and a plough that shall both plough and harrow at once." He then proceeds to state the faults of ploughs, and says, "I, therefore, shall be bold to say, that if plough-irons be not made exceeding true, in all points, according to the land you have to plough, and wrought fair and smooth, a plough-wright, or a plough-maker, shall not, nor cannot, work true to a false foundation; and if it be not wrought true, it shall hardly go true, unless after much wearing, being wrought into work, it may plough reasonably well at last, and by that time the plough must be worn out; but never with that ease and continuance as it would by truth of workmanship. Another abuse in him is the not steeling his plough-irons well, and making them sharp and well pointed: the second abuse is in the plough-maker, who works according to certain coarse rules he hath learned by trade, knows not how to hold a plough himself, nor to apply himself to the nature of the land, nor according to the alteration of it, nor scarce is able to discern the falsity of the smith's workmanship; and is not able to apply himself to all sorts of lands, or those several sorts of tilths the husbandman gives; he shall never make a plough to go with ease by his rules, unless he chop upon it by chance.

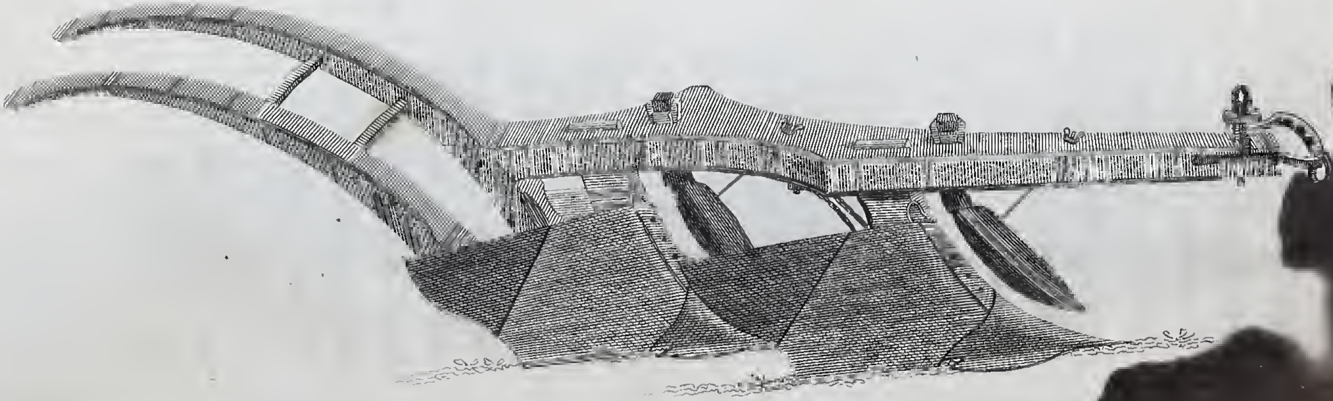
"The third abuse may be in the plough-holder; and if he have not abilities to hold his plough, to fix and alter his iron, and his plough too, according to the several natures of the land he plougheth, and according to the manner of his ploughing, and keep his irons in a true and keen posture; sometimes he is to cast down his land, sometimes to raise up, and sometimes to plough up hill and down; sometimes even, level ground; in all which if he have not good experience, though both smith and ploughwrights do their parts, yet, because the plough-holder cannot be made as well as the plough, many good ploughs are utterly spoiled in the usage, or abusage."

Blith then proceeds to describe the Hertfordshire wheel-plough, represented in the plate, and says it is useful on flinty and strong soils, and will work well with great strength: he notices also the turnwrest plough, and says, "There is another double-wheel plough, and it is called the turnwrest plough, which, of all ploughs that ever I saw, surpasseth for weight and clumsiness; it is most of use in Kent, Picardy, and Normandy, and is called the Kentish plough with us. I am confident it might be cast into a neater form, and made to good advantage; the weight and ugliness of it I hate, but the turnwrest conceit of it I like."

He next treats of the single-wheel plough, represented in the plate, which he commends highly. Its principle of draught comes nearer to that of the Beverston than any I have yet seen, although differently executed. He tells us, that "Colonel Blunt, of Greenwich, hath ploughed with six good horses, six men, and six ploughs, six acres a-day, at sowing time, in light, well-wrought ground."

Blith then treats of the Norfolk and Suffolk, which he calls "good ploughs, in many coun-





tries where land is light." Of the Dutch plough, then used, and still in use in Lincolnshire, and of the double-furrow plough, carrying two furrows at once; of this last, he gives a description (*vide* plate), and says, "Which plough, thus marshalled, you may well plough upon ordinary arable land, which is in good tillage, a double proportion, and also upon fair, clean, lay turf; and this you may manage with four good horses, but not upon strong or rough land; the description and discourse whereof, I give not in, as of any great advantage above the other plain plough, but for variety's sake, and to provoke others to the amendment and perfecting of this discovery; yet I, for present, see not but it may be of excellent use and expedition upon many lands in England; and experience of a good ploughman will order it at pleasure."

That there is much practical good sense contained in these passages, no husbandman can deny. It is now to be proved whether or not that improvement has been made which, he says, the plough carrying two furrows is capable of. From the design representing a side-view, may be observed, besides the moveable plates, coulters, stays, &c. how firmly the plough is put together, and how little waste there is of timber and iron-work.

The principle of this moveable plate may not, at first, catch the attention of every reader; but it has found stout advocates in ploughmen, because it saves their right-arm much trouble, in wedging and hammering-mould plates, and their right-leg much exertion in attempting to tread flat that furrow which the plough had left on an edge.

To qualify any two-furrow ploughs for broad work of all descriptions, breaking up leys included, these plates are indispensably necessary. In single ploughs they are almost equally so. All single ploughs ought to work on their own base, "close at heel," as the technical term is, or the furrow must be irregularly laid; but two-furrow ploughs must absolutely do so, or they will instantly be thrown out of work.

In this plough may be particularly noticed the keenness of the throat, or breast, and the little resistance it would thereby occasion. Now it is not to be denied, that you add to the strength of any implement, in proportion as you do away the resistance with which it had to contend: this circumstance Blith dwells on much; and, indeed, so will every other man who knows what work is. The double-edged coulter is formed also to produce this effect; in strength and substance it is equal to the common or narrow coulter, and being less broad, presents so much less for resistance: when in work, the stay gives a steadiness to it, the coulter being subject to frequent derangement, to correct which, must occasion frequent stops, alteration of the wedges, and loss of time.

We have now to consider the moveable mould-plate, and its operation on the furrow. If the breast of a plough be full, or obtuse, the whole struggle lies there—there is the furrow turned, and the hindermost part of the mould-plate has little or nothing to do; the furrow may be well laid for one particular sort of work, but the breast of the common plate can only be of one form, therefore can only turn one description of furrow; and it must be done at an increased weight of draught: this is beyond all contradiction. In these moveable plates, the furrow is not turned until it reaches the remotest point of action, at a distance of two feet from the point where the furrow is cut off from the land. By the gentle and progressive turn of the mould-plate, the earth hangs balancing, as it were, in the air, and the slightest pressure of the moveable plate lays it over. The principle of this plate is to deposit the furrow at any angle required, and to qualify it thereby for the different purposes of husbandry.

There is another principle in ploughing, equally well established, namely, that the base or bottom of the furrow must be cut level and true, or the surface of the work will be untrue, and the crop otherwise derive material injury. To effect this, the plough must go close at heel, and upright in its work, therefore the furrow must assume one form only. A third principle, equally certain, is, that in ploughing ley ground, or for sowing on one earth, the furrow should be laid far more flat than is advisable in the stirring, or in the seed earth. Hitherto we have obtained one of these objects at the expence of the others. No two-furrow plough could, for an instant, make work except in an upright direction; for if it did, the land, or left share, would be buried too deep, and the " furrow," or right share, would be thrown out of work. But still further, I will be bold to say, that no single-furrow plough, whether constructed in China, in France, or in England, has ever yet, or ever will be, able to answer all these purposes, without the aid of a moveable plate; and, therefore, however good for a limited purpose it may be, it cannot be called a perfect implement; it is incapable of doing all that is forever required of it to do. It would be the height of folly and extravagance to construct two implements where one would do. I, therefore, sit contentedly in the conviction, that these plates must be resorted to; and, though I have taken out a patent for them, I beg to observe, that it is not my object thereby to reap any benefit; the price will prove that I only look to be repaid, in a given period, the expences attending the taking out a patent, and that my purpose in doing so, was to secure the identity, as well as the exact form, of my own constructed implements; on which exactness, its success must depend. In many cases, the moveable plate will probably supersede the use of the turnwrest plough.

I am not disposed to draw absolute conclusions from ploughing matches, because much may depend on accident; besides that, exertions might be made for three hours, without much apparent distress, which, nevertheless, could not be maintained for three weeks, and so the public becomes misled. Yet, as this match was much talked of, and many questions on the subject put to me, I wrote to Mr. Tweed, (then personally a stranger to me, of course his partiality was to the plough itself, not to the inventor,) to know the particulars; his tale is plain and unvarnished; I give it in his own words. It may not be amiss, however, to premise, that the ploughmen of Essex have, for a very long time, been celebrated throughout England, and that Mr. Tweed's land is strong and stiff in quality; not a turnip has been sown there for more than twenty years past; it is bean and wheat land. The practice of that country has been to allot one hundred acres in tilth to four horses; therefore let it be remembered, that the saving of expence obtained by the use of the two-furrow plough, does not arise from a comparison on lands, expensively cultivated with four or five horses, incurring a charge of twelve, sixteen, or twenty shillings *per* acre; but, in the county of Essex, and in the vicinity of Chelmsford, where it has long been a system to work these strong soils with two horses, and no driver, and where this art is allowed to be as well understood, and practised with as much skill and œconomy, as in any part of Europe, Flanders not excepted.

Mr. Tweed says—“ In answer to the letter I have just had the honour to receive, I take the liberty of stating the experiments I have made with your two-furrow ploughs upon strong land, as well as the result of the only match I have yet been engaged in. I put my first plough to work, with three horses and one man, against two of my own, and four horses, held by two remarkably good ploughmen, who are very much averse to any new implements; after exerting themselves to the utmost every day for a month, upon clover leys, bean and pea etches, for wheat, they allowed, very much against their inclinations, that it performed the work best, which is entirely owing to the superior form of the breast, and the great advantage derived from the moveable plates; this trial having perfectly convinced me that there is an absolute saving of five shillings a-day, every day they are used. I ordered a second, and soon after, a third, and have, ever since, had all my work done with them, nine horses, and three men, which before employed six ploughs, twelve horses, and six men, causing a reduction of one-third of the men and one-fourth of the horses, and is, in my opinion, one of the greatest improvements that ever was made in agriculture, for which I conceive the public and myself indebted to your Lordship.

"Being at Mr. Lovibond's rent-dinner, (the gentleman I live under,) I made a proposal to the company, who were all farmers, to plough for a wager, two acres of any land, with the two-furrow plough and three horses, as well, and in the same time, as one acre could be ploughed by a single one and two horses.

"This was accepted by Mr. Gibling, of Hatfield, and a field of his fixed upon, that had been sown with rye directly after harvest, upon a wheat etch, and being fed by bullocks and sheep in wet weather, poached a great deal, and, when the ploughing took place, was extremely dry and bound. A great number of spectators attended. At starting, the odds were three and four to one against the two-furrow plough, as it was supposed not to be able to break up and turn hard work: after a fair contest, five farmers were appointed umpires, who were unanimous in their decision, that the two-furrow plough, having executed the work soundest and best, and in the least time, was entitled to the wager.

" I remain, with due respect,
" Your Lordship's most
" obedient, humble servant,
" T. L. TWEED."

" *Sandon*, 1802."

Second trial, reported as follows by the umpires:

Essex Herald, June 1, 1802

" On Saturday last, a ploughing sweepstakes was decided in a field of Mrs. Stebbings, of Springfield. The match was made by F. Honeywood, Esq. C. C. Western, Esq. Mr. T. L. Tweed, M. Burgoyne, Esq. L. E. Wakefield, Esq. for three guineas each, p.p. for ploughing one rood of land each. About half-past eleven, the ploughs of the respective amateurs took their station, and the men displayed every possible attention in the execution of their work, in the presence of a vast concourse of spectators. The sweepstakes was adjudged, by the umpires, to the double-furrowed plough of Mr. Thomas Little Tweed, of Sandon. A double-furrowed plough was allowed, by the articles, to have four horses; but Mr. Tweed's was worked with only three, and ploughed two rods, not only in the best agricultural manner, but within considerably shorter time than the other common ploughs did their one rood."

In addition to this testimony I have only to add, that it has not been my ill fortune to verify the old adage, which says, "A prophet is no prophet at home;" for these ploughs are spreading, with unexampled rapidity, over the country in which they originated; and at a very large meeting of farmers, held there lately, no ploughs of any other description appeared, and the prize, given by subscription, was contended for by these ploughs only.

It has been argued, that a two-furrow plough, with the double-mortised beam, has an advantage over that of the curved single beam, in as much as, by a screw, the beams can be brought nearer, or set more apart, for the purpose of cutting a wider or narrower furrow.

In common ploughing, no great benefit was contended to result from this power, but in sowing under furrow, great advantages were to be expected. Now let us look round, and see where the tillage husbandry is reputed to be good, and single-furrow ploughs in use, consequently the size of the furrow is optional; let us see, I say, whether the wide or the narrow furrow is preferred. We can, in a moment, instance the usage of the country round Westham, in Essex, and Petersham and Moulsey, in Surrey. In both instances, the land is level and good, and the broad-cast husbandry very high in reputation, as their crops, on an average of years, are ready to testify; here the seed is ploughed in at a ten, or sometimes at an eleven inch furrow. We are not to establish a general system on two or three instances—twenty or thirty might, perhaps, be adduced; but they are worth, at least, one assertion.

It has been my determination to avoid, as much as possible, any comparison of other implements with my own; but I may say, that I learn from one, who is as good a judge of husbandry as any among us, and has compared the double-beam two-furrow with that of the curved single-beam two-furrow plough, that, besides additional expence in mortising and iron-work, and consequent tendency to derangement, there is an absolute difference of one horse in four in favour of the patent plough.

If land is inclined to be wet and stiff, the less trod it is, the better. Here Mr. Tweed's mode is to work three horses, one on the land and two in the furrow, one before the other, instead of three a-breast; and it appeared, by the regulation of the cops, i. e. an iron screw, acting through the end of the beam, to regulate the depth of the work, how little he has added to the weight of draught. It is almost needless to say, that the true point of draught should be exactly in the centre, that is to say, the chain should be set in the centre-notch of the cops; any deviation to the right or left, can only be for the purpose of counteracting a false friction, or pressure, which must add to the weight. The size of a furrow, provided it be of just proportions, is optional; that which I have preferred, is nine inches and a quarter, and, for every purpose of husbandry, I know of none better. It will give as much mould, or "crumb" (as we term it, provincially), to the harrow, as any other furrow whatever: this is the best object, in ploughing for a ley crop, and a good thing to be obtained in ploughing for any other purpose.

If ley peas are to be sown every other furrow, at nine inches and a quarter each, there will be an interval of eighteen inches and a half between the rows; a distance as much approved as any we know. At every third furrow for beans, the interval will be twenty-seven inches three-quarters; at every fourth furrow, thirty-seven inches; and it must be allowed, that if any implement be attached to a plough for delivery of pulse, or corn in drills, the upright position necessarily belonging to the two-furrow plough, when in work, will qualify it admirably for this purpose.

That these ploughs are adapted to all light soils, and loams, will not admit of a doubt, whether of unequal or level surface. We have stated that steep ground can be ploughed up and down, cutting one furrow with the land, or left plough, up the hill, and two furrows down, by which the weight of draught will be more equal, and the power not wasted. We have just noticed, that, in working across an inclined field, the moveable plates may be so regulated as to produce very much of the effect of a turnwrest plough. That they have the power to lay hold of, and maintain themselves in hard and bound-up ground, is proved beyond contradiction; we may account for it, perhaps, by the length and extent of the sole, or bottom, from the foremost part of the right or furrow plough, to the heel of the land-plough; the void space, or interval, between both, does not at all affect its firm and upright position, yet renders the friction materially less, consequently, the plough itself lighter in action; but of the facility with which they would lay up land into one-bout ridges, for winter fallow, we had not experience for some time, until lately some close, deep, loamy land was bouted up, without any additional strength of team, or any undue exertion of the four Devonshire steers, the usual strength applied to these ploughs.

To eighty, perhaps ninety acres of arable, or rather in its present state, tillage land, the whole of the heavy road-work, carriage of lime, dung, and timber included, we allot one plough of this description.

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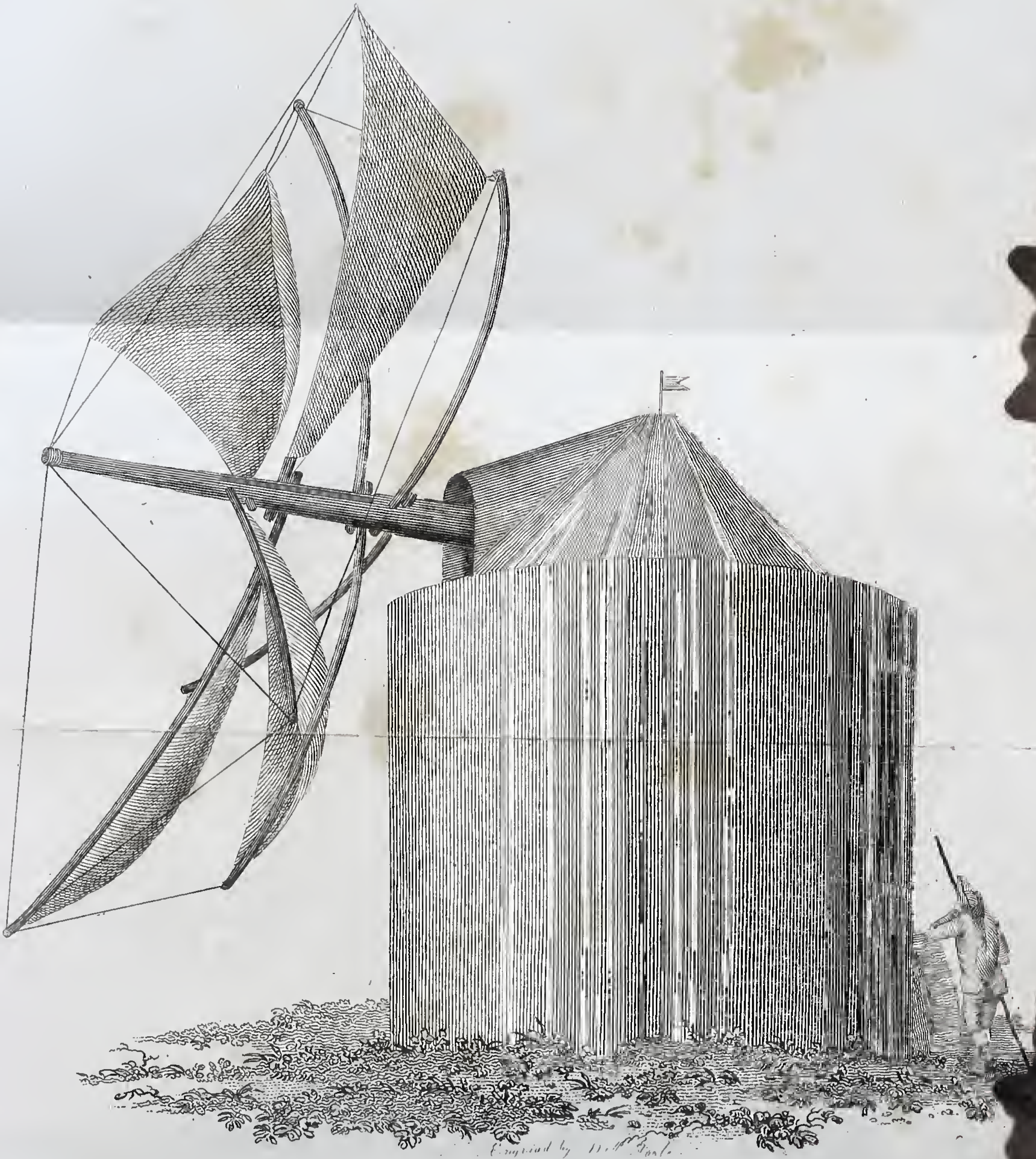


Engraved by W.M. Poole.

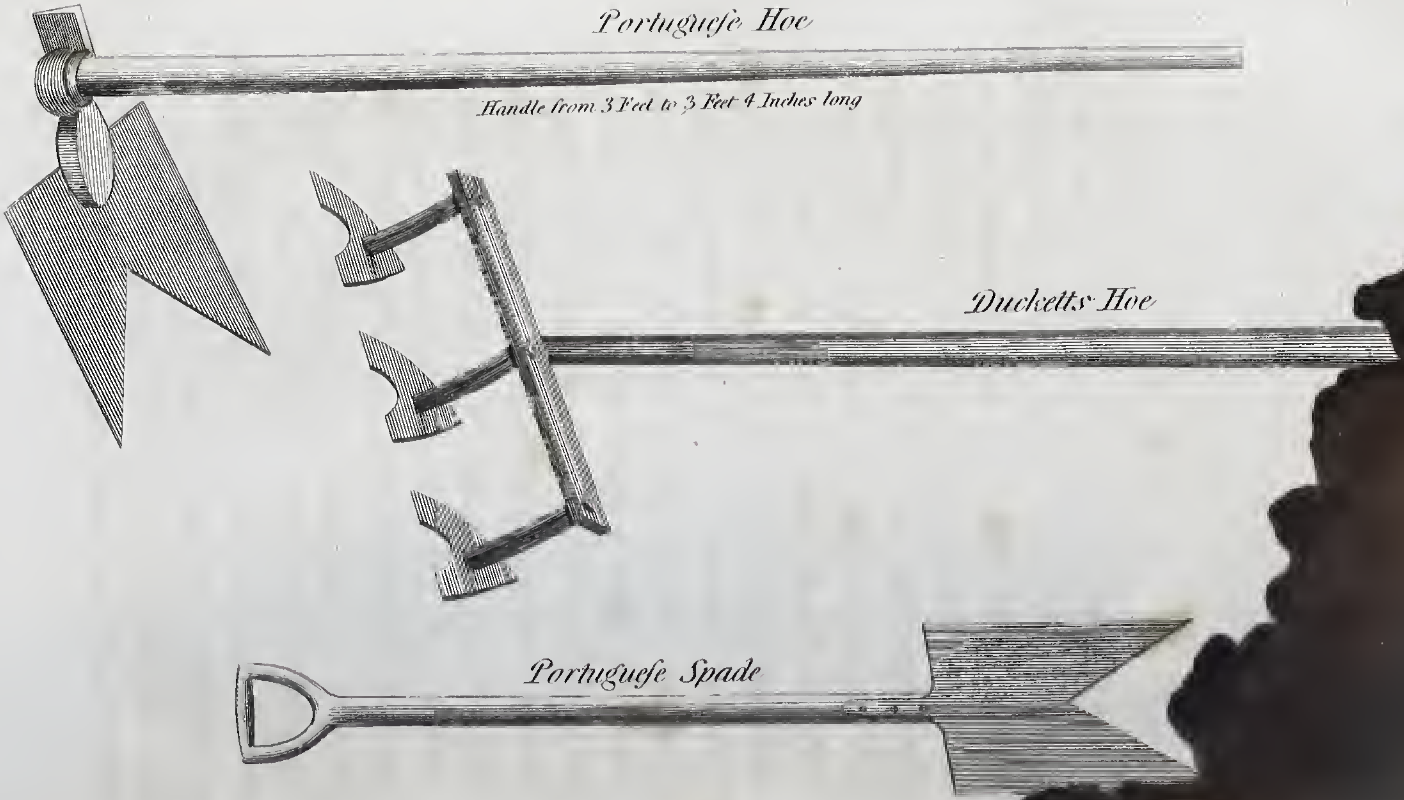
WINDMILLS.

Windmills around Lisbon, being of a construction in some respects different from, and probably superior to those in England, in respect to their sails, a representation of one is given. The advantages arising from this construction, appear to me to be these: first, that the broad part of the sail is at the end of the lever, (that is, the end of the branch,) and, therefore, that equal resistance can be overcome with less strength of branches, or arms. These being shortened, much weight of timber, both in the arms and in the spindle, may be saved; which will also occasion a saving of expence in the height, prime cost, and future repair of the mill. Secondly, it is observable, that the sails may be set to draw like the stay-sails of a ship; and, therefore, filling more than those in England, will require the mill to be brought less often to the wind, which must ever be a trouble, however light or heavy the whole machinery may be.

HOE.

In the use of the hoe, the Portuguese excel in a very great degree. The strong land in their vine-yards, which must be dug by hand, could not be worked by hoes, upon a construction common with us; but the handle being short, as well as light, the hoe, by its own weight and conical form, cuts deep, without much exertion. They who have seen these implements at work, will bear testimony to their extraordinary powers. Mr. Mark Ducket, in his ingenious invention of a hoe, for cleaning crops of all descriptions, whether drilled or hand-set in rows, seems to have availed himself of a short handle and heavy iron-work, the exact reverse of our common hoe, which, except on the lightest sands, demands great exertion to make any impression whatever, if the soil be dry.

The inhabitants of mountainous districts, in many parts of the Continent, set us excellent examples, by taking advantage of every spot of soil, however steep and difficult of access, and turning it to the use of vegetation. Nor could



Portugueſe Hoe

Handle from 3 Feet to 3 Feet 4 Inches long

Ducketts Hoe

Portugueſe Spade

this be effected by any better implement than the Portuguese hoe. This hoe the author put into the hands of a gentleman, connected with the West-Indies, for the use of our colonies, in conjunction with Mr. Ducket's hoe, this forms a complete system of hand-culture, where hand-culture is required. But many will suppose, that this hoe, however applicable elsewhere, would be of but little use here. It will, however, appear to be serviceable in many cases, such as digging dung, or compost of lime and earth, angles of fields, where the plough has not room to act, very steep ground, not so well suited to the spade, foreheads (head-lands), for the purpose of mixing and softening down the lime preparatory to spreading it over the land, which last practice is well understood in the Vale of Taunton, and recorded by Lisle, even in his time, as an admirable practice of long standing there, (see an account, by the author, in the Annals of Agriculture, 1798). It will also be found useful in hand-digging orchards and plantations, the young trees of which will not only thrive better for such treatment, but might supply abundant crops of potatoes to the proprietor and labourer. If, in this case, the former finds land and manure, and the latter finds labour, the crop may be divided between both; but, if no dressing can be afforded, the whole crop should be the labourer's, because the landlord will derive an ample benefit from the improvement of his timber, provided the crop be dug with care.

The grass of plantations seldom turns to any account, nor is much good derived from that of orchards, for it is of a cold and sour nature, owing to the shade; and little proof will ever be found in it, as hay, unless sprinkled with salt. It is probable that orchards would derive as much benefit from the use of the hoe, as plantations.

The "conical spade" is designed to trench hard and stony ground, and must from its form, which is that of a double cone, penetrate betwixt stones, where the spade with a flat surface or edge, would be impeded; because the center which is cut out, would, in the flat surface, come in direct contact with every stone which lies in its way.

The advantage of the conical form in deep digging, is fully established, first, in the west country "showl," as it is there termed, with the bent handle, so well known in Normandy and in Italy, where it is, I believe, termed the Zapeta or field-spade. Secondly, this principle is well recognised in the Portugueze hoe, which, as we have before mentioned, is used in their strong vine-yards.

There is a possibility, that the spade which is lined on the face of each cone to render it stronger, may not be exactly on the scale most eligible, because it is broad, and the void space between the cones, therefore larger than might be consistent with practice, but the principle is still the same.

ON THE DRAG CART.

THE nature of this improvement, cannot be better described than in the following quotation from the 2d volume of Communications to the Board of Agriculture, by Mr. Cumming, the celebrated *Mechanic,* inventor of time-pieces, used in navigation, &c. &c.

"Some months since, having occasion to wait on the Lord Chancellor, on the subject of devising a substitute for the locking of wheels in going down hill, he shewed me a drawing of a two-wheel cart, in which this was effected in a manner that appeared to me equally new, simple and judicious.* On enquiring, I was told that it was Lord Somerville's invention; and wishing to mention a matter that was so intimately connected with the subject on which my attention was then bent, and that had so long baffled all the attempts of ingenuity, I waited on his Lordship, and he most politely assented to my mentioning it in any degree that I might judge most likely to render it useful to the public, or to elucidate any part of the subject which I was then endeavouring to investigate.

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* The design of this drag-cart was lodged in the Court of Chancery, not with a view to take out a patent, but as a specification that such an invention did already exist.

"The first thing that attracted my attention in this neat light cart, was a method, equally simple and expeditious, of adjusting the centre of gravity of the load, so as to have a proper bearing on the horse in going down hill, the advantage of which must be obvious to every man of science, more especially with bulky loads, in which the centre of gravity lies high.

"The next thing, and what was more immediately interesting to me, was a method of applying friction to the side of the wheel, to regulate the motion of the carriage in going down hill, (instead of locking the wheels) the advantages of which method appear to be as follows, viz.

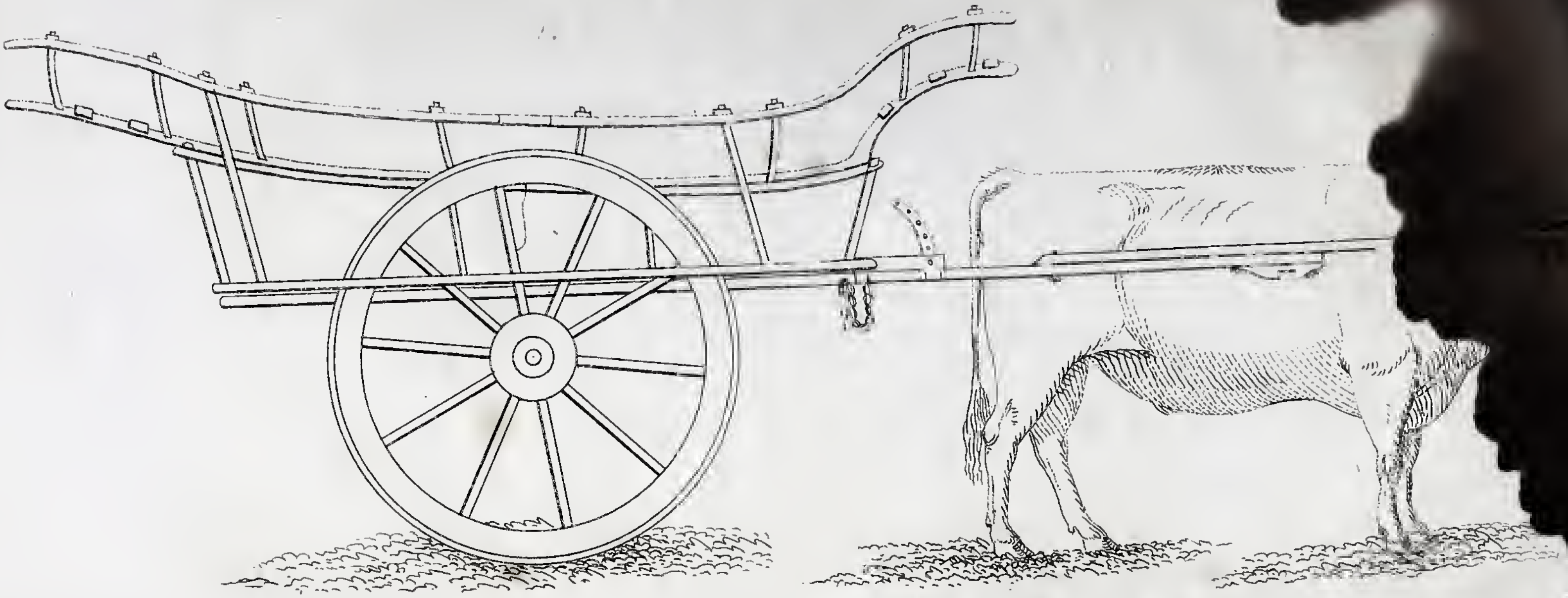
"1st, The pressure and degree of friction may, with great expedition, be adjusted to the steepness of the declivity, so that the carriage shall neither press forward, nor require much exertion to make it follow the cattle.

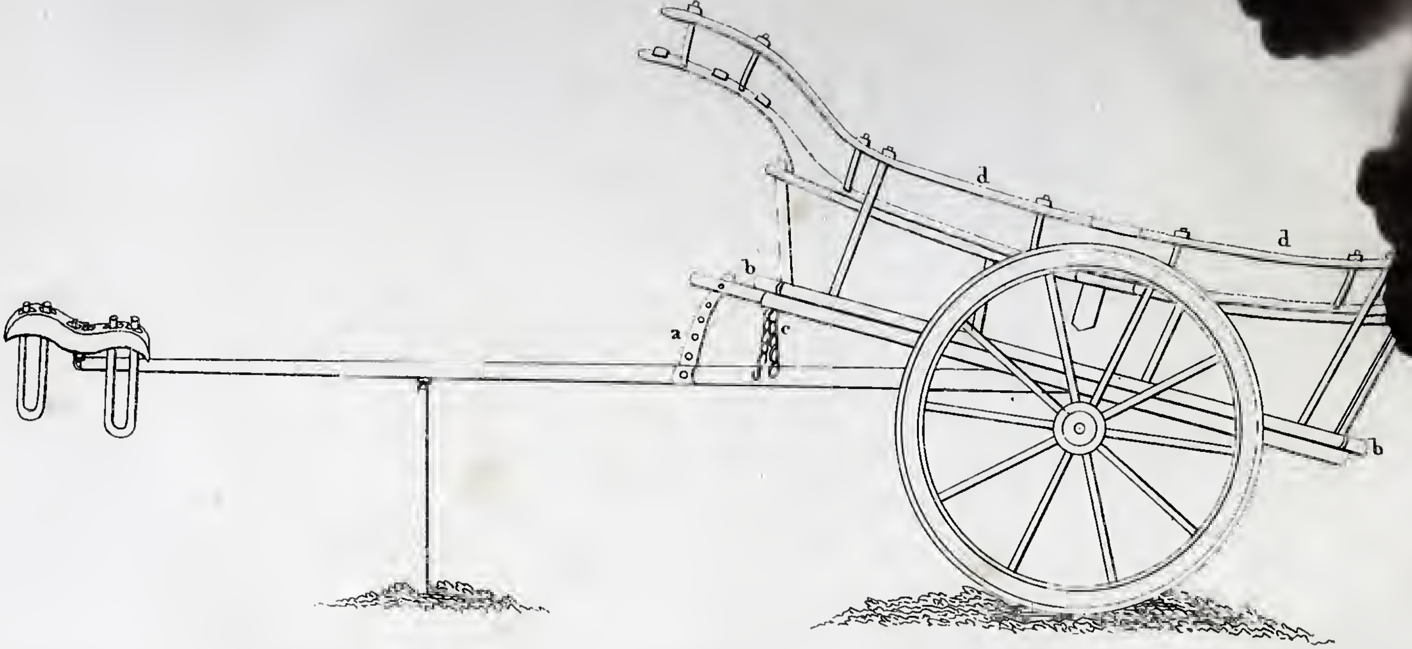
"2dly, The friction is with great propriety so applied to the wheel, that a given pressure will have twice the effect in retarding the progress, that it would have, if immediately applied to the body of the carriage, or to the axis; and by applying the friction on both sides of the wheel, the risk of heating and destroying the friction-bar, is much less than if the same degree of friction was applied in one place.

"3dly, This apparatus is so conveniently placed, that it can be instantly applied or adjusted, without stopping the carriage, or exposing the driver to the same danger as in locking a wheel, and

"4thly, This useful contrivance, in which simplicity and ingenuity are so happily blended, will assume yet greater importance, when applied to both the hind wheels of waggons, by which means the resistance may always be proportioned to the steepness of the descent, the tearing up of the road prevented, the unnecessary exertion of the cattle in drawing the locked carriage down hill avoided, the danger to which the driver is sometimes exposed in locking the wheel totally evaded, and the time now lost in locking and unlocking the wheel, saved."

In the plate, we have a side-view of a cart to be drawn by two steers, or small oxen, by a pole, yoke and bows, to carry 25 cwt.




d
d
b
a
c
b

with the friction drag; b b, the drag out of use, and representing a simple method of adjusting the centre of gravity of the load to the declivity of the descent; a b is part of the arch of a circle, whose radius is nearly equal to its distance from the axis of the cart, and having several holes in it, through which a strong iron pin is put to keep the body of the cart at any desired inclination with the pole; c, a small chain to prevent the body of the cart being thrown too far back, through the carelessness of the driver in adjusting it; d d, the upper stage of the cart, for carrying bulky loads. The weight of iron to this cart is 1 cwt. 30 lb. The plate is a view of a cart to be drawn by a single horse, by shafts, with the friction-drag applied.

FARM ACCOUNTS.

Having been frequently applied to for the form, in which the monthly accounts of a farm may be advantageously kept, so as to give a distinct idea of the operations thereon to the proprietor, when at a distance; I have thought it might be useful to some of my readers, to give them a copy of one month's account of my own farms, giving not only the existing crops, and the labour and expense of the farm, but also the lands in which each lot of sheep is depastured, so as to give the proprietor, when he views the farm, an exact idea of what has been doing in his absence.

ACCOUNT *of the* STOCK

On the Farms of the Right Hon. Lord Somerville, from 15th of June, 1807, to 11th of July following.

No.	*Live Stock.*					*Memorandums and Observations.*
	Fitzhead Farm.					
	Fat.	Rams.	Hogs.	Ewes.	Lambs.	Orchard.
1						Few apples
2	2	5				Keep short
3			2		79	Do. do.
4		2		87		Keep plenty
5						Keep short
6						Do. do.
7						Do. do.
	Arscotts Farm.					
A						Keep short
B						
C						Wheat, good crop
D						
E						Keep short
F						Potatoes
G						Keep short
H						Barley
I						
K						
L						
M						Keep short
N						Wheat, good crop
O						Do. do.
P						
Q						

No.	Live Stock.					Memorandums and Observations.
	Fat.	Rams.	Hogs.	Ewes.	Lambs.	Orchard.
Hocombe Farm.						
1						Keep short
2						Keep plenty
3						Do. do.
4						
5						Barley
6						Keep short
7						Wheat, good crop
8						Barley
9						Keep plenty
10						Do. short
11						Barley
12						
13						
14						Keep plenty for sheep
Top Ground.						
A						Keep plenty
B					102	Do. short
C				113		Do. do.
D						Keep plenty
E						Turnips
F						Wheat, good crop
G						Turnips look prosperous
H						Do.
Southlips				—	—	Vetches
Shelstone				—	—	Keep short
Cotcombe Farm.						
1						Keep plenty
2						Wheat, good crop
3						Sain foin
4						
5						Orchard
6						Keep short
7						Do. do.
8						Do. do.
9						
10						Pease, middling crop

No.	Live Stock. Fat.	Rams.	Hogs.	Ewes.	Lambs.	Memorandums and Observations.
	Marsh Farm.					Rich grazing land.
	13	27	146	100		Keep plenty for sheep in general.
	Pyleigh Farm.					
1						Young grass
2						Barley
3						Keep short
4						Keep plenty for sheep
5						Sown to turnips
6						Keep short
7						Keep plenty
8						Wheat
9						Do.
10						For turnips
11						Sown to turnips
12						
13						Keep short
14						Keep do.
15						Do. do.
16						Do. do.
17						Barley
18						Keep short
	Quickbeem Farm.					Pasture.
1						Keep short in general
2				91		
3						
4						
5						
6						

Glebe.

	Fat.	Rams.	Hogs.	Ewes.	Lambs.	
1						Turnips look well
2						Sown to turnips
3						Keep short
4						Wheat capital
5		2		68	17	Keep plenty for sheep
6						Barley
7						Wheat, good crop
8						Keep short
9						Wheat, good crop
10						

Westleigh Farm.

1						
2						Wheat, very good crop
3						Do. do.
4						Barley
5						Sown to turnips
6					135	Keep short
7						Do. do.
8						Barley
9						Keep short
10						Barley
11						Keep plenty
12						Wheat, good crop
13						Keep short
14						Do. do.
15						Turnips
16						Barley
17						Keep short

	Two-year old Fat Sheep.	Rams.	Feeding Wether Hogs.	Store Ewes.	Draft Ewes.	Lambs.
TOTAL	15	36	148	325	134	333

In all,	991	Sheep.
—	17	Oxen for labour.
—	4	Cows at home.
—	4	Steers at Pyleigh.
—	3	Heifers at Marsh.
—	5	Calves at ditto.
—	1	Calf at home.
	1025	
	3	Draught Horses.

WEEKLY ACCOUNT *of* PERSONS

Employed by the Right Hon. Lord SOMERVILLE; and other Observatio
From Monday 15th of June, 1807, to Saturday 11th of July following

NAMES.	Where employed	No. of Days.	At per Day.		Amount		
			s.	d.	£.	s.	d.
To B. G. and Son. —	—	24	2	2	2	12	0
To J. R. — —	—	24	1	8	2	0	0
To ditto, jun. —	—	24	1	2	1	8	0
To J. N. — —	—	24	0	10	1	0	0
To J. C. and Wife —	—	24	2	2	2	12	0
To J. C. — —	—	18	1	6	1	7	0
To J. P. — —	—	20	1	6	1	10	0
To W. C. — —	—	18	1	6	1	7	0
To J. H. — —	—	21	1	6	1	11	6
To H. C. —	—	21½	1	6	1	12	3
To J. W. — —	—	17½	1	6	1	6	3
To R. C. — —	—	22	1	0	1	2	0
To W. W. — —	—	3	2	4	0	7	0
To J. W. —	—	24	1	0	1	4	0
To R. D. — —	—	24	0	11	1	2	0
To H. S. —		29	2	0	2	18	0
To the women for one month's wages —	—	—	—		8	18	6
For cutting 81½ acres grass at Fitzhead and Pyleigh	—	—	—		8	3	0
One month's pay for labour	—	—	—£		42	0	6
To B. G. his bill for medicine	—	—	—		1	7	9
To T. B. his do. for do.	—	—	—		0	13	0
To J. W. for thatching hay-rick	—	—	—		0	7	0
To W. C. for cutting weeds on the land —	—	—	—		0	5	4
To J. S. an allowance for liquor on 13 score of lime	—	—	—		0	13	0
To J. R. his bill for healing lime	—	—	—		0	17	7
To J. W. his bill for nails and paint —	—	—	—		1	8	0
To T. C. his bill for turnpikes, cyder, and for making 7 acres hay —	—	—	—		5	16	5½
To W. S. his bill for grinding corn —	—	—	—		0	19	10
To W. H. his do.	—	—	—		0	8	3
Towards an apprentice	—	—	—		2	0	0
For malt — —	—	—	—		9	0	0
For turnip-seed —	—	—	—		0	8	0
To R. C. his bill —	—	—	—		3	10	8
To Mrs. T. her do. —	—	—	—		4	7	0
To M. R. his do.	—	—	—		3	3	11
To expences at markets, &c.	—	—	—		0	0	0
To one month's turnpikes, &c.	—	—	—		0	14	0
To J. S. his bill for sundries	—	—	—		0	8	10
For two new sieves, and repairing old ones —	—	—	—		0	6	6
Tenth month's account to 11th July, 1807 —	—	—	—£		78	15	7½

OBSERVATIONS

An Account of Money rec
as follows, viz.

	£.	s
Of B.G. for 1 bushel wheat	0	
Of J. R. for 1 do.	0	
Of J. C. for 1 do.	0	
Of J. P. for 1 do.	0	
Of W. C. for 1 do	0	
Of do. for ½ do.	0	
Of J. H. for 1 do.	0	
Of do. for ¼ do.	0	
Of T. C. for 1 do.	0	
Of J. W. for 1 do.	0	
Of R. C. for 1 do.	0	
Of J. R. for 1½ do.	0	
Of J. P. for ¾ do.	0	
Of Mr. Y. for tallow and a skin	0	
Of J. S. for 1 bag potatoes	0	
For 100 bush. wheat at 9s. 6d.	47	1
For the [illegible]	14	
For the Ether-grasses in Shelstone	8	
Tenth month's account to 11th July, 1807	£.74	1
Brought forwards — from the last month's account.		

Account of the Spring-Cattle Shows, from their Commencement.

In conformity with the principles we have laid down, and trusting it will not be thought presuming or officious, the author is induced to offer two annual prizes of £50 each in due proportions; one to the first and second best yoke of fat oxen, which shall have laboured a given period, to provide corn and other food for man, but shall never once have consumed it; the second, to all breeds of short-woolled sheep (hitherto so much neglected), giving the preference to those most productive in food and raiment. Both subject to the following conditions:

To be given annually, so long as shall be thought advisable, a prize of £.30 to the best, and £.20 to the second best yoke or pair of oxen, which shall have worked together in yoke or harness, for the space of three years previous to their being turned up to graze; aged from five to eight years, weighing from one hundred to one hundred and sixty stone (eight pounds to the stone), that is, from ten to sixteen score *per* quarter, being the size best adapted to labour, and to the average of markets. They will be let up from work between the 25th of April, and the 1st of May, in each year, and shewn at Langhorn's Repository, in Barbican, on Monday and Tuesday nearest the 1st of March following, being a period of ten months, more or less.

The order, as to flesh, in which these oxen are, on New-year's-day, and the number of days' work done between that time and the 25th of April, must be specified.

Due allowance will be made for distance of drift from any part of the kingdom, both in a lean and fat state.

It must be warranted, that they have had no corn of any description; that the straw, if any, given when fatting, was carefully cleaned of corn; that they have had no beans, peas, buckwheat, or potatoes, (turnips are not included in this exception). What quantity of oil-cake has been given, must be accurately stated, that due allowance may be made. If the least fault should be discovered in any certificate, the person so offending will be set aside, and deemed disqualified ever afterwards.

This point is designed to countenance farmers in their usual course of profitable husbandry, rather than those who, forgetful of general benefit, are ambitious of keeping on cattle too long after they are ripe.

Another prize of *£*.50, in like proportion, and at the same time and place, will be given to those who produce, in fair store state, the best five ewe hogs, not in lamb, *£*.30, that is to say, not exceeding thirteen, or less than ten months old when shewn; also the five best fat wethers, four or six-tooth sheep, *£*.20, whether horned or natt. This age is preferred, because it does not exclude those flocks which work in the fold, yet it obliges them to come to market at a period when their growth ought to be perfect. Quality of carcase, aptitude to fatten, quantity and quality of wool, and meat *per* acre, to be considered. By ‘store-state’ is meant, that sheep are not to be taken from the flock more than ten days before the commencement of their journey, or forced beyond the average keep of the flock. Strict certificates will be required as to the keep and time of lambing for the ewes; as to the time of lambing, duration of work in the fold, and period of fatting, as well as quality of food, for the wethers. Five umpires will be chosen for each of these prizes. No person to be admitted as an umpire, who is personally interested in the event. No person gaining a prize, is qualified to exhibit stock for the same prize the succeeding year.

The prizes for oxen will be divided between the grazier and the farmer, who possessed these oxen during the last twelve months' work. The prizes for sheep will be given to the breeders only of the sheep shown. The two pair, or yoke of oxen, to which these premiums shall be adjudged, are not to be slaughtered with the axe, but "laid" or pithed according to the usage of other countries, for which purpose a skilful person will attend at the convenience of the purchasers.

Without entering into a comparison between the two methods, let it be remembered, that public prejudice is very strong in favour of the mode here proposed; and where prejudices can be indulged without difficulty or loss, it is wisdom to indulge them.

Implements of husbandry on a new well-approved construction, and samples of grains or seeds, will be admitted, for which, as well as for the stock, proper places are allotted, on due notice to Mr. Langhorn. The stock to be sent in before seven o'clock on Monday morning.

Working-oxen here exhibited, which are to be fed for the show of the following year, will not be required to return to work, should the distance exceed forty miles, but may then be let up.

Two pieces of plate will also be given by Lord Somerville, to those who may have best merited premiums without obtaining them; and another piece of plate will be given to the owner of the best fat pig of any age.

Claimants for these prizes are requested to give notice to Mr. Langhorn, one month previous to the day of show; and will not fail to send in their stock at or before seven o'clock on Monday morning. After nine o'clock, none will be admitted. The gate will be open for inspection of the stock, at eleven o'clock each day.

Oxen.

I, ——— ———, do certify, that my yoke, or pair of oxen, have worked together for the space of ——— years; were bred by ——— ———, and during the last year, were worked by ——— ———, that they have had no corn, beans, peas, buck-wheat, or potatoes; that the quantity of cake has been ———

Ewe Hogs.

I, —— ——, do certify, that the five ewe hogs were bred by myself; were not taken from the flock more than ten days before the commencement of their journey.

Wethers.

I, —— ——, do certify, that the five wether sheep were bred by myself; have had no corn, meal, or potatoes; are now ——— ——— old, and worked in the fold.

The following were the regulations for the first year, 1802. Five persons were appointed judges.

A landed proprietor — Lord Grimstone.
A farmer — Mr. Astley.
A woolstapler — Mr. Oakley.
A salesman — Mr. Wheeler.
A butcher — Mr. Bird.

They were requested to have the goodness to attend on Saturday at ten o'clock, for the purpose of inspecting the stock, and carefully examining the certificates, and again to attend on Monday, at eleven o'clock, when, after mature investigation, their final decision was given, sealed up.

List of the Show.

OXEN.

Two Hereford oxen, from his Majesty, in work from the 1st of January, to the 25th of April, 97 days; low in order when turned up. Journey 22 miles.

Two Glamorganshire oxen grazed and worked by his Majesty; in work 97 days; seven years old; journey 22 miles. No oil-cake.

Two Hereford oxen, six years old; worked by Mr. King, grazed by Mr. Thomas Crooke. Journey 100 miles.

Two Sussex oxen, eight years old; bred and grazed by Charles Gilbert, esq. Journey 62 miles.

Two Devonshire oxen; grazed and worked by Hugh Hoare, esq. in constant work from 1st January to 25th April. No oil-cake. Journey 45 miles.

Two Devonshire oxen, by Mr. H. King; worked by Lord Somerville; in work 65 days, from 1st January to the 25th April; low in order. Journey 165 miles.

Two Devonshire oxen, grazed by Mr. Richard Hudson, worked by Lord Somerville; in work 69 days, from 1st Jan. to 25th April; low order. Journey 165 miles.

Two French oxen, six years old; regularly worked and grazed by Mr. Thomas Crooke. Journey 100 miles.

Two Hereford oxen, grazed by Mr. J. Westcar; worked by Mr. H. Williams; in work every day from 1st January to the 13th May. Journey 160 miles.

A French bull, three years old; bred by Mr. Thomas Crooke.

SHEEP.

Five Ryeland wether hogs for grazing; Lord Somerville's, not shewn for the bounty.

Five South Down ewe hogs; Henry Hugh Hoare, esq.

Five South Down ewe hogs; Duke of Bedford.

Five South Down ewe hogs; Mr. Smith.

Five South Down wethers, two years old; Duke of Bedford.

Five South Down wethers; Mr. King.

Five South Down wethers, three-years old; Mr. Smith.

Five Wiltshire three shear ditto; Mr. Browne.

Adjudication.

The first prize for working oxen, strictly qualified to Mr. Westcar and Mr. Williams, for a yoke of Hereford oxen, £30.

The second to Mr. Hoare, for a yoke of Devon oxen, £20.

The first prize to his Grace the late Duke of Bedford, for ewe hogs, £30.

The second, to Mr. Browne, for three shearing wethers.

The oxen which obtained the first prize, were beautiful animals, and finished after Mr. Westcar's usual manner. The ewe-hogs of the late Duke of Bedford were most deservedly admired.

1803. Second Year.

Judges.

Hon. G. Villiers, Mr. Lindsey.
Salesman.............Mr. Ebsworth.
Farmer ....Mr. Pester.
Butcher ....Mr. Eyres.

Mr. Lloyd to assist in questions respecting wool.

In order to decide with more accuracy, two from each pen of fat sheep, claiming the prizes, were slaughtered, and exhibited dead.

The following oxen were shewn for the prizes:

Two Hereford oxen, worked and grazed by his Majesty, at Windsor.

Two Devons, worked by Mr. J. Hellings, grazed by Mr. H. Coles, fed upon grass and hay only. Drift, when fat, 140 miles.

Two Herefords, worked and grazed by Mr. Edmonds; fed upon grass and hay only. Drift, when fat, 90 miles.

Two Kentish, worked and grazed by Mr. Millar.

Two Sussex, worked and grazed by Sir Thomas Carr.

Two Devons, worked and grazed by the Duke of Bedford.

Two Devons, worked by Lord Somerville, grazed by Mr. R. Hudson.

Two Glamorgans, grazed by Mr. Waters.

Two Devons, grazed by Mr. Martin Webber. Drift, when fat, 128 miles.

Two Herefords, worked by Mr. J. Skyrme, and grazed by Mr. Byng.

Two Glamorgans, grazed by Mr. Waters.

The following heifers were shewn:

One Sussex, belonging to Sir Thomas Carr.

One Devonshire, belonging to the Duke of Bedford.

One Kentish, belonging to Mr. Whittle; and two bulls, belonging to the same gentleman.

The following fat sheep were exhibited for the prize of *20l.*, five in each lot; two of them were killed, and their weight, &c. ascertained:

Five Wiltshire wethers, three years old, belonging to Christopher Chapman, of East Wickham, in Kent. No. I. when alive, 239 lb. No. II. 244 lb.

Five South Down wethers, two years old, belonging to the Duke of Bedford, from Maulden farm, Bedfordshire.

Five South Down wethers, two years old, belonging to the Duke of Bedford, from Prisley farm, near Woburn.

Five Ryeland wethers, three years old, belonging to Lord Somerville, fed on grass and hay only. Not shewn for the premium.

Five South Down wethers, two at two years old, and three one year old, belonging to Mr. Edward Smith.

Five South Down wethers, three years old, belonging to Mr. Ellman, of Sussex.

The following ewe lambs, store stock, were shewn for the prize of 30*l.* :

Five South Downs, belonging to Mr. Edward Smith.

Five ditto, belonging to Mr. Runciman, of Woburn.

Five Ryelands, belonging to Sir W. Clayton.

Five Ryelands, belonging to the Hon. W. Harcourt.

Adjudication.

CATTLE.

The first prize to his Grace the Duke of Bedford, for a yoke of Devon oxen, 30*l.*

The second, to Mr. Edmonds; and in case his Hereford oxen should be found to exceed the stipulated weights, then to Mr. Martin Webber, for his yoke of Devon oxen, 20*l.*

SHEEP.

The first prize to Mr. Edward Smith, of Hertfordshire, for ewe hogs, 30*l.*

The second to his Grace the Duke of Bedford, for his Maulden wethers, 20*l.*

A silver cup to Mr. Ellman's South Down wethers, and to the Hereford oxen, bred by Mr. Skyrme, was drawn for by lot, and won by the latter.

A silver cup to Mr. H. Cole's Devon oxen, bred by Mr. Hellings, and to Mr. Millars's Kentish oxen, bred and worked by himself, was also drawn for by lot, and won by the latter.

Various implements of husbandry were exhibited by Mr. Lester, of Holborn, and Mr. M'Dougall, of Oxford Street, and selected grasses, and other seeds, by Messrs. Gibbs and Co. Piccadilly.

Certificates of the first year's show are now mislaid; those of the last year, for stock obtaining premiums, are as follow:

"This is to certify, that the two pair of oxen shewn by the Duke of Bedford, for Lord Somerville's premium, are seven years old; that they were worked together for three years; that, on January 1, 1802, they were in fair working condition; and, between that time and the 1st of May, when they were let up from work, they did forty-four days hard work; that they have never had corn of any description, or potatoes; and, between the 9th of November and the 19th of February, the day they set off on their journey for London, have consumed three hundred and eighty-four oil-cakes each.

"EDWARD CARTWRIGHT.
"JOHN CLAYTON."

"A yoke of oxen, seven years old, bought of (and, as I believe, bred by) Mr. Edward Jeffries, of the Sherriffs, Herefordshire, worked by me three years, were in fair working condition on New-Year's-Day, 1802; went to work as soon after Candlemas as the land would permit us to plough, and continued the same to the 2d or 3d of May following; did as much work, day by day, as any oxen I had; after they were turned off from their work, have been fed solely with grass and hay; never have eaten during the time I have had them, either potatoes or corn of any description; have travelled 80 miles and upwards, since Saturday, the 19th instant.

"*Feb.* 25, 1803. JOHN EDMONDS."

"*Haine Farm, near Tiverton, Devon.*

"I hereby certify, that I sold, on the 5th of May 1802, at Collumpton fair, to Mr. Martin Webber, two oxen, which he intends shewing for Lord Somerville's prizes; bred by me, and taken to labour at two years old, and continued regularly working till the 25th of April last; on New-Year's-Day, 1802, they were quite lean; cannot say the exact number of days work they did from New-Year's-Day, 1802, but venture to say more than fifty, before I sold them. I also certify, that they were never fed with any kind of corn whatever while in my possession.

"Witness my hand, the 23d day of February, 1803,

"THOMAS GAMBLIN."

"Two oxen, bred and fed by Thomas Millar, West Farleigh, Kent; fed with cake and hay, and worked to the 1st day of August, 1802.

"The cake these oxen have eat,

"Weighed out	-	1000 lb.
"Now left	-	145
		855 lb."

"I, John Skyrme, of Strotton Sugwas, in the county of Hereford, do hereby certify, that the two oxen which I sold Mr. Byng, on the 12th of May, 1802, were bred by me, and worked in the yoke for the space of three years preceding.

"*Oct.* 20, 1802. JOHN SKYRME."

"These two red oxen were bought by me, Henry Coles, on February 11, 1802, and since Lady-Day have been worked by my servant, the bearer of this certificate; and the same have been fed by me, on grass and hay only, without any additional food whatever. As witness my hand, this 14th day of February 1803,

"HENRY COLES."

"February 24, 1802, sold Mr. Henry Coles two red oxen, which were my own breed at the parish of Stawley, in the county of Somerset, which were constantly kept to the plough to the last day of January last, by straw, and without any artificial food whatsoever. As witness my hand, this 11th day of February 1803,

"J. W. HELLINGS."

"This is to certify that the five South Down wethers, shewn by his Grace the Duke of Bedford, for Lord Somerville's premium, were lambed on Maulden farm, in March 1801; that they worked in the fold in 1801, from May 1, till July 20, when they were weaned, and have never had oil-cake or corn of any description.

"EDMUND CARTWRIGHT.
"THOMAS FRENCH."

"This pen of ewe hoggets were dropt in March; they went to fold in the middle of April, and folded with their dams till the beginning of November, invariably, when they were put to turnips, where they have been until last Wednesday; never have had either corn, cakes, or hay; when they were taken from the flock, and drove to Edmonton, where they have been until this morning; their coats will inform the uncongenialness of the soil, and an open common field.

"I shall again express my wish that they may not be put in competition with park or paddock bred and fed, for the very same reasons as expressed in the certificate with my wether sheep.

"EDWARD SMITH, JUN."
"*Clothalbury, 17th Feb.* 1803."

"They have, agreeably to th eproposal, not been forced beyond the flock, nor have they had their coats smoothed by the scissars."

"This is to certify, that the five South Down wether sheep I offer for a premium given by Lord Somerville, were bred by Mr. Thomas Ellman, and self; are two years ten months old; were kept with the flock, and folded the first year; since which time they have been fed on grass and hay, till November last, when they had some turnips.

"*February* 28, 1803. JOHN ELLMAN."

The oxen which his Majesty condescended to exhibit, having no respite from labour, and being grazed in Windsor Park, could not be supposed, in point of ripeness, to compete with others, grazed on better land: they turned out, however, well when dead.

The Devon oxen, grazed by the Duke of Bedford, which obtained the first prize, were worked together with six others in the thrashing-mill; whether attracted by the principle of this stupendous piece of machinery, or by the uniformity and, we may add, beauty of the team itself, certain it is, that of the various exhibitions at the Woburn shearing, in June, this seemed to claim more than common attention in the husbandmen of Norfolk in particular.

We have noticed this with silent delight, and hailed it as a most auspicious omen. The husbandry of that county would be almost inimitable, if a due proportion of its labour be performed by that which will add to, rather than consume, the food of man.

The Kentish oxen, produced by Mr. Millar, although heavier than the stipulated weight, could not be dismissed without some acknowledgement of their merit. They laboured to the month of August last, and thereby completely illustrated the principle aimed at in this exhibition; they were as fat as need ever be seen on the stones of Smithfield; and in their working state, they must have evinced that activity and just proportion which would carry a loaded waggon to the top of any hill, and excite surprise and wonder in those who are unaccustomed to the exertions of oxen.

The Hereford oxen, grazed by Mr. Edmonds, as well as those grazed by Mr. M. Webber, were much esteemed for the quantity of labour, and the manner in which they bore the drift up when fat. The prize was secured to Mr. Edmonds, his oxen not being overweight: they weighed,

	st.	*lb.*	*st.*	*lb.*	
Fore quarter	41	4			
Ditto - -	42	0			
Hind quarter	38	0			
Ditto - -	38	3			
			159	7	the yellow ox.
Fore quarter	41	0			
Ditto - -	41	2			
Hind quarter	36	4			
Ditto - -	37	4			
			156	2	

Their rough fat amounted to 40 stone, or 160 lb. each.

The yoke of Hereford oxen, bred by Mr. Skyrme, were not only such as might be expected from his stock, but would have done credit to any breeder in the kingdom.

The yoke of Devon oxen, grazed by Mr. Hudson, could not be supposed to come in competition with many others, for their labour is incessant, and their hopes of rest, except on Sundays, most feeble. Our certificate of their labour done, equalled, and, indeed, exceeded that of the last year; we believe they were universally thought to be creditable stock, yet had no hopes of gaining either prize, and consequently no disappointment; but, as their proof has done credit to him who grazed them, for they had all new flesh to lay in, as well as fat, it may not be amiss to state that they carried 53 stone of rough fat; that the kidneys were loaded, and the flesh, or grain, ripe and well filled up with fat. We were induced to limit the weight of oxen exhibited, from 100 to 160 stone (16 score *per* quarter) on the presumption that cattle of these weights were best adapted to quick motion, combined with strength, not aware that, in a period of ten months, or less, they could be brought to market from labour, so ripe and perfect as it now appears they do come. The same reason which then limited these weights to 160 stone, now justifies an increase of weight to 180 stone, or 18 score *per* quarter, which alteration will be announced for the show of the years 1804-5.

It is a matter of precaution again to declare, that our only object is the introduction of oxen in the labour of husbandry, and by no means to advance one good working breed at the expence of another; whether they come from the

East Riding of Yorkshire, from Scotland, from Shropshire, from Herefordshire, from North and South Wales, from Devon, and Somersetshire, or from Sussex and Kent; all shall be welcome; and to all, as far as human endeavours can go, shall justice be done.

The wools of some pens of wethers, as well as ewe hogs, were valued at the request of the judges; and, from the adjudication of the prizes, it is obvious that this important part of the produce of our sheep did not pass unnoticed.

		s.	*d.*
No. 1.	Wilts wool	1	6
2.	Ellman South Down ditto	1	11
3.	Woburn ditto	2	0
4.	Maulden ditto	2	1
5.	Runciman ditto	2	1
6.	Smith ditto	2	2

SPANISH CROSSES.

1st. With Ryeland.
2d. With South Down.

"The first we consider as the finest hair; but being more elastic, we think it has less of the distinguishing character of Spanish wool than the second.

"DANIEL LLOYD,
"GEORGE WANSEY."

It must not be supposed, that the average value of the wool of each flock will be equal to the above prices; the sheep were drawn out with an attention to this particular point, and it is probable the price will be found to exceed by two-pence *per* pound, the prices which each flock-master will obtain. We are induced to throw out this hint, lest any person should think his produce undervalued, and thereby overstand his market. There is strong reason to believe that the manufacturers have, for three years past, maintained a trade, which demands both skill and capital, on very indifferent terms; and that their profits, notwithstanding cloths have risen, within the last four months, 1*s*. 6*d*. *per* yard, are scarcely seven *per cent.*; a return wholly inadequate to the risk and trouble incurred. As we have heretofore resisted the wanton attacks of the trade, on our endeavours to increase and improve the breeds of short-wool sheep; so again, motives of justice, as well as interest, dictate to us, that if too high a price is set on the raw article, and an adequate profit does not belong to the manufacturer, it may cease to be manufactured altogether.

The half South Down and Spanish wool was declared to be worth four shillings *per* pound; but, taking into consideration the immense profit we draw from these fleeces, at three shillings *per* pound, the quantity materially increased, and quality as materially improved, we shall content ourselves with such prices for the wool as will enable others to draw their share of profit from it, when sent forth manufactured.

These efforts to improve the wools of Great Britain, by every possible means, originated in a fear that the Merino wool might, through the influence of France, either be denied to us wholly, or might come so fettered by duties and intermediate charges, as would paralyze our manufactures, if not wholly destroy our trade. We have incurred the sneers of thousands by such fears; an edict to this effect is said at length to have passed, prohibiting the exportation of wool, except it be sold to a Frenchman, and, we believe, unless it be shipped first to France also.

If this be true, the most flippant and sanguine speculator amongst us cannot construe it otherwise than as a measure most hostile to our trade; we regret that it is so, but we draw consolation from the contents of the foregoing pages, which deal out, not opinion, but facts; and these facts go to prove, that this blow at our national prosperity, like every other, may be warded off; that it may be defeated by the spirited exertions of the landed interest; that we may, in spite of the world, produce this treasure on our native soil.

The three-year old, or six-tooth wethers, exhibited by Mr. Ellman, were most generally and deservedly admired; any prize which they could have obtained, would not have been equal to the merits of the sheep; to him the improvement of the South Down sheep, and that within a very short period of time, is, in great part, if not wholly attributed. The rapidity with which it is now followed up, can be traced in the two pens of two-year old wethers, exhibited by the Duke of Bedford: this breed was not judged capable of coming to market ripe enough at that early age. The extension of stock in point of numbers, which results from this improvement, is an incalculable benefit to the public; and by those who are competent to judge, it is so understood. Some eminent butchers in London have lately been heard to say, that, whether from increase of wealth, or other causes, so much more meat is now consumed than was the case even within their short remembrance, that the town could not have been supplied on the old system, and that, if it had, mutton would now have been sold at, perhaps, five shillings *per* pound.

The pen of Wiltshire three-year old wethers, grazed by Mr. Chapman, were very complete sheep of the kind; it is a breed which works readily in the fold; and being of a large size, may be supposed to pay, in the article of manure, for living one year too long.

The pen of Ryeland three-year old wethers, of which we, in a former passage, promised to detail the weights, having been fed on grass and hay only, and exposed to the severity of the winter, on an unsheltered layer, must have wasted considerably, more especially in the rough fat; it is usually the last laid on, and the first to decrease; the difference between good and bad grazing, consists in knowing what lean stock will get fat, and when it shall afterwards reach the exact period of its ripeness. They exceeded very little in size those of the same lot, which were all killed in September, but which did not die so ripe in the fifth quarter. At that period, or in the following month, it was acknowledged that these were at their best also; so that we ascertained, by incontestable evidence, the size and degree of ripeness which this breed of sheep will attain in thirty months, however hard their keep may be, even from the time they were dropped.

	st.	*lb.*		*s.*	*d.*		*£.*	*s.*	*d.*
One sheep,	9	5	at	5	4	*per* stone,	2	11	4
Fat, - -	1	3	—	4	2	- - - -	0	5	8
One sheep,	8	6	—	5	4	- - - -	2	6	8
Fat, - -	1	3½	—	4	2	- - - -	0	5	11
One sheep,	8	1	—	5	4	- - - -	2	3	4
Fat, - -	1	2¾	—	4	2	- - - -	0	5	6
One sheep,	9	2	—	5	4	- - - -	2	9	4
Fat, - -	1	2	—	4	2	- - - -	0	5	2
One sheep,	8	3	—	5	4	- - - -	2	4	8
Fat, - -	1	0	—	4	2	- - - -	0	4	2
Five heads and plucks						- - -	0	6	8
							13	8	5
Five skins						- - - -	1	13	1
							£.15	1	6

Weight of Sheep.

Eighteen pounds *per* quarter, rough fat, ten pounds each. The wool, selling as skin wool, did not produce as much by some shillings each fleece, as if it had been shorn. The present value of the sheep would be more than three pounds each.

The two-tooth Ryeland wethers, one year younger, were sold the same week fat, at 2*l*. 5*s*. each, and died full as ripe as these above. This puts the matter in a very clear point of view; more especially when it is observed, that the sheep were sold in the country, at a distance of 160 miles from London, where the price is materially less than in the metropolis.

The half Ryeland and half South Down wethers, of the same age, being a new stock in the market, have excited much attention: those, we mean, which have been killed in the country and sent up; for the distance precludes all hope of sending up sheep alive, with any advantage. Whether this stock, under the adverse circumstances of feeding before detailed, yields to any other breed in the property of early ripeness, in small size of bone, in the thickness and quality of meat on the back and prime parts of the sheep, may be learnt of many who are reputed to be among the best judges in this kingdom; we mean Messrs. King and Boys, sheep-salesmen, and Messrs. Thomas, Giblet, Garment, and many other butchers. If these sheep can come up thus ripe, from nineteen to twenty-two months old, how much more perfect will they be three months hence, when their fleeces are taken off; their size adapts them, in a peculiar degree, to the supply of that season of the year. The struggle appears to be for early proof and abundant supply; and we have the authority of the most experienced to assert, that those possessing Merino blood will not be the last in the race. Nor is there any man bold enough to say, that they will not be first, when that attention shall be paid to the form and outward points of this unimproved but profitable race, without which, true symmetry is rarely if ever to be met with.

1804. Third Year.

JUDGES.

Sir John Honeywood,	Mr. Richard Astley,
Mr. Wheeler,	Mr. Grierson.
Mr. Garment,	

The following oxen were shewn for the prizes:

Two Devon oxen, worked by Mrs. Lowman, and fed by Mr. Webber.

Two Hereford oxen worked by Mr. Knight and Mr. Skyrme, (one of the original pair having died,) and fed by Mr. Westcar.

Two Herefords and two Glamorgans, worked and fed upon his Majesty's Cranbourn farm.

Two Glamorgans, worked and fed by Mr. Waters.

Two Sussex oxen, worked and fed by Sir Thomas Carr.

Two Herefords, worked and fed by Mr. Hudson.

Two Devons, worked by Lord Somerville, and fed by Mr. King.

Two short-horns, worked by Mr. Harpur, and fed by Mr. Higgins.

Two Herefords, worked by Mr. Smith, and fed by Mr. Darke.

A Sussex ox, and a free martin cow, (twins) worked and fed by the Earl of Egremont.

Two spayed Sussex heifers, worked and fed by the Earl of Egremont.

Sheep.

Five ewe hogs, of the Merino and Ryeland cross, twelve months old, bred by, and belonging to, Lord Somerville.

Five South Down ewes, eleven months old, bred by Sir Thomas Carr.

Five South Down ewes, twelve months old, bred by Mr. Coke, of Holkham.

Five South Down ewes, twelve months old, bred by Mr. Money Hill.

Five South Down ewes, ten months old, bred by Mr. Western, M. P.

Five South Down ewes, eleven months old, bred by his Grace the Duke of Bedford, on his Maulden farm.

Five South Down ewes, bred by the Duke of Bedford, on his Woburn farm.

Five Dorset ewes, thirteen months old, bred by Mr. Bridge, near Dorchester.

Five South Down wethers, four-toothed, bred by Mr. Ellman, and fed by Mr. H. King, jun.

Five South Down wethers, four-toothed, bred and fed by Sir Thomas Carr.

The candidates for the pig premium were, Mr. Dickett, Mr. Western, Mr. Wakefield, Mr. Pickford, Mr. Smith, Mr. Hudson, Sir Thomas Carr, and Mr. Clayton.

Adjudication.

CATTLE.

The first prize to Mr. King's pair of Devon shire oxen, worked by Lord Somerville; a cup to each, value *30l.* the two.

The second to Mr. Martin Webber's pair of Devon oxen, worked by Mrs. Lowman, of Crewkhern; a cup to each, value *20l.* the two.

The judges were of opinion that one of Mr. Hudson's oxen was superior to any other shewn (as a butcher's ox); but his companion being so greatly inferior to him, the pair could not be entitled to the prize. It being well known that one of Mr. Hudson's oxen was ill about Christmas last, Lord Somerville presented Mr. Hudson with the cup, which, by the adjudication of the judges in the first ox prize, belonged to him. It appeared, when this ox was slaughtered, that the cause of the illness was an abscess about the heart, a disease to which sheep, as well as cattle, are often subject.

A cup was also presented to Mr. Frost, for the great merit of his Majesty's oxen, considering the land they were fed on.

SHEEP.

The first prize to Mr. Coke, of Holkham, for the best five ewe hogs, a cup, value *30l.*

The second, to Sir Thomas Carr, for the five best fat four or six-tooth sheep, a cup, value 20*l.*

A cup, value about eight guineas, to Mr. Duckett, for the best pig, a white sow, two years and a quarter old.

Mr. Bridge was presented with the remaining cup, and an acknowledgement of the great expence, on account of distance, at which he had brought his five Dorset lambs to the show.

N. B. It was the opinion of Messrs. Newsome, and Oakley, Woolstaplers, that Mr. Coke's wool of the ewe hogs was, both in quality and quantity, superior to any South Down shewn; and they valued it at 2*s. per* pound. Lord Somerville's half Ryelands, at 3*s.* to 3*s.* 2*d. per* pound.

Several useful implements were exhibited; among them, a Somersetshire waggon, with friction drags, to lessen the velocity of the carriage down a hill; Lord Somerville's patent single-furrow plough, &c. Mr. Plowman exhibited the model of a portable fold for sheep, of which, by means of small wheels, a whole side can be moved, or even the whole fold shoved upon fresh ground daily, without taking it to pieces. It appears also, that a slight alteration in the construction of this useful fold, and making it stronger and heavier, would enable the farmer to pen hogs upon his clover, tares, or other green crops, which is a great desideratum.

1805. Fourth Year.

JUDGES.

Honourable Ross Mahon.
Mr. Edward Augur.
Charles Gordon Grey, Esq.
Mr. Thomas Boys.
Mr. John Thomas.

OXEN.

Two fine Hereford oxen, worked and fed by his Majesty, under the care of Mr. Frost. Drift, 25 miles.

Two Devon oxen, seven years old, worked by Lord Somerville; in work 78 days. Drift, 160 miles.

Two Devon six-year old oxen, worked by the Duke of Bedford. Drift, 40 miles.

Two Hereford oxen, grazed by John Higgins, Esq.

Two Devon oxen, grazed by Mr. Hudson.

Two Devon fat oxen, worked by Mr. James

Bindon, grazed by Mr. Henry Coles. Drift, 140 miles.

Two Hereford oxen, worked and grazed by Mr. Hatch.

Two Suffolk oxen, grazed by Mr. Miller.

Two Hereford six-year old oxen, worked by Mr. Skyrme, and grazed by Mr. Westcar; since which they had travelled 50 miles.

Two Sussex seven-year old oxen, worked and grazed by Mr. Waters. Drift, 10 miles.

Two Devon oxen, worked by Mr. W. Webber, and grazed by Mr. Martin Webber. Drift, 133 miles.

Among the oxen and cows exhibited without any view to the prizes, were—

A large black ox, of the Holderness breed, bred by Mr. G. Wheeler, and fed by Mr. Tully.

A handsome small brindled five-year old Spanish cow, which Earl St. Vincent brought over from Spain; grazed till Christmas last by Mr. Joseph Joyner, and since has had oil-cake.

Four Scotch beasts, fed by Mr. Faulder.

A Galloway Scotch beast, five-years old, fed on grass and hay since May last, by Henry Hugh Hoare, Esq.

A Holderness white spotted ox, fed by Mr. Tubbs.

Two Devon oxen, fed by Mr. Coles.

A Sussex ox, seven years old, bred by Mr. Elliot, fed by Mr. Thomas Ellman.

A Sussex ox, seven years old, bred by Mr. John Cornwell, and fed by Mr. John Collman.

Two Kentish cows, mother and daughter, fed by Earl Darnley.

A Yorkshire ox, three years old, fed by Mr. J. Adams.

A Devon cow, six years old, bred by Lord Somerville, and fed by Mr. Henry King.

A four-year old bull, of the Indian and French breeds, bred by Mr. White Parsons:

A cow, of the Devon and Indian breeds, fed by Mr. White Parsons.

A Devon bull, belonging to the Marquis of Salisbury.

A female bison, the size of a middling ox, very high in the shoulders, with short horns, full eyes, and a very rough head. A strong contrast to the excellent and comely animals above-mentioned.

Sheep shewn for the Prizes.

Five one-year South Down ewe hogs, bred by Mr. H. Darrel, brought 32 miles.

Five one-year old South Down ewe hogs, bred by the Duke of Bedford; brought 42 miles.

Five eleven-month South Down ewe hogs, bred by Mr. John Ellman; brought 50 miles.

Five one-year old Merino ewe hogs, bred by Lord Somerville, and driven 160 miles.

Five three-year old South Down wethers, bred and fed by the Duke of Bedford; brought 40 miles. One weighed 124 lb. with 16 lb. of fat; one 121 lb. with 17 lb. of fat.

Five two and three-year old South Down wethers, bred by Mr. John Ellman, brought 50 miles.

Five three-year old South Down wethers, bred by Mr. Money Hill; brought 120 miles.

Five three-year old South Down wethers, bred by Sir Thomas Carr; brought 51 miles.

Among the extra sheep were—

Two three-year old wethers, of the Spanish and Ryeland breeds, bred by Mr. Ridgway, and fed by the Earl of Mansfield; weighed 68 lb. with 11½ lb. of fat, and 77 lb. with 13 lb. of fat.

Three South Down three-year old wethers, bred and fed by Mr. Tubbs; brought 12 miles.

Four three-year old South Down wethers, bred and fed by Mr. Mills; driven 22 miles.

Lord Somerville shewed a fat two-toothed or one-year old Merino wether sheep, of his breed, which was declared, by the best judges, to be peculiarly fine in the wool, and very fat; weighed 63 lb. with 8½ lb. of rough fat; 3*s*. 6*d*. in the rough, or 5*s*. when scoured, *per* pound, was offered for the wool of the skin.—Also three Merino rams, part of the flock he brought from Spain. One of these rams was let last year for one hundred guineas.—Also the carcases of five fat wethers, of the Merino and South Down breeds, half blood, three years old, which had twenty-three pounds of loose fat each; driven 160 miles from his Lordship's farm, where they were bred and fed.

Five carcases of Cheviot wether sheep, two and three years old, which had been killed in Scotland, and sent up, a distance of 385 miles, by Mr. Robson, were exhibited.

George Tollet, Esq. exhibited the carcases of two three-years old wether sheep, one Merino and South Down, and the other Merino and Ryeland; the former had 19½ lb. of loose fat, and the other 23 lb. They were both brought a distance of carriage of 130 miles; had been killed seven days; both got by a Merino ram of Lord Somerville's *.

Two South Down rams, two and three years old, belonging to Charles Western, Esq. were shewn.

A South Down ram, and a black-spotted sheep, with four horns, said to be from the Cape of Good Hope,

Pigs.

A small, but remarkably fat and handsome black and white sow, by a Leicester boar and China sow, eight months old, bred by Mr. Isted, and fed by the Duke of Bedford; one foot eleven inches high; from rump to snout, three feet nine inches long; and, in girth across the shoulders, four feet nine inches.

Two fine large white pigs, bred by Mr. Tubbs. A peculiarity in his practice is deserving of notice; he shaves off, with a razor or sharp knife, the gristle on the top of the noses of his pigs, when young, which soon heals over;

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* These sheep evinced, in a most extraordinary manner, the improvement which may be made, with assiduity and care, in this breed.

the pig is thereby rendered incapable of that destructive rooting or turning-up of the ground, so destructive to sward land.

Two spotted Essex pigs, bred and fed by Charles Western, Esq.

A six-months old white pig, of the Suffolk and Essex breed, bred by Mr. Wakefield.

A large Leicester pig, two years old, bred and fed by the Earl of Winchilsea.

A black and white pig, of the Essex breed, bred by Charles Western, Esq.

Two large black and white pigs, bred and fed by Mr. Pickford.

Three Merino ram lambs were sold to Mr. Beckingham, Mr. Blake, and Mr. Wildman, at 32, 31, and 28 guineas.

A ram, of the Merino and South-Down breed, to the Earl of Bridgewater, at 55 guineas.

CATTLE.

The first prize, a cup, value 30 guineas, to Mr. Hudson, for two Devon oxen.

The second prize, two cups, value 20 guineas, to Mr. Martin Webber, and to his son, W. Webber, for two Devon oxen, worked and grazed by them.

The Judges, in their report, commended the oxen which Mr. Westcar had shewn, and adjudged,

FOR SHEEP.

The first prize, a cup, value 30 guineas, to Mr. John Ellman, for his five South-Down ewe hogs.

As soon as this cup was presented to Mr. Ellman, he signified his intention of not again appearing as a candidate in this class of premiums; assigning as a reason, that many breeders, who had, for years past, bought and hired his stock, were now able and desirous to exhibit their produce, with advantage to the public, and with credit to themselves.

The second prize to his Grace the Duke of Bedford, for his five South-Down wethers.

AND, FOR PIGS.

The prize for the best pig, to the Duke of Bedford. His Grace, on receiving this cup, rose, and in the most handsome manner stated, that Mr. Isted, who bred this sow, thinking it a very good one, had sent it to him; and as he ever held the merits of the breeder before those of the feeder, he should, with the permission of the noble Chairman, send this cup to Mr. Isted; which was accordingly done.

An extra silver cup was given to Mr. Robson, for his great merit in feeding such sheep as were exhibited, upon land so mountainous and exposed, that few persons but himself would attempt the wintering of sheep thereon. This was also the first instance of any stock being produced, at this show, immediately from North Britain.

An extra cup was also given to Mr. Money Hill, for his five South-Down wether sheep.

Premiums having been offered last year, to shepherds—

The first prize was adjudged to Charles Pain, shepherd to Mr. John Ellman, who attended 589 South Down ewes, which brought 701 lambs, 19 only of which died.

The second prize to John Holland, the Duke of Bedford's shepherd, on his Park farm, who superintended 400 South-Down ewes, which brought 472 lambs, out of which, 11 only died.

An alteration in the conditions for next year's show was made; "That the oxen were not to be taken from the team, and put to fatten, so soon as heretofore by some days, by which the period of fattening will be reduced to nine months." A new premium was likewise announced, of a cup, value 10*l.* for rearing the greatest number of pure Merino lambs exceeding 50. And a new condition was made by which the carcasses, skins, rough fat, head, and legs of sheep, from more than 180 miles distant, should be admitted with others sending live sheep from less distances; and that only one article mentioned in each class, could be, in future, received from any one person.

1806. Fifth Year.

JUDGES.

Earl of Winchilsea, John Moseley, Esq.
Messrs. Hardwick, Chandler, and Wells,

Messrs. C. Gordon Gray, George Tollet, and John Ellman, to decide the claims by shepherds, for raising the greatest number of lambs.

OXEN.

Two Devon oxen, bred and grazed by the Duke of Bedford, six years old, which, besides grass and hay, had consumed 1224 pounds of oil-cake.

Two Hereford oxen, worked by Thomas Ridgway, and grazed by Earl Mansfield, six years old; had consumed 1178 lbs. oil-cake.

Two Devon six-year-old oxen, worked by Lord Somerville, grazed by Mr. Hudson, which had been driven 165 miles in a store state.

Two Devon seven-year-old oxen, worked by Lord Somerville 68 days, grazed by Henry King; consumed 1040 lbs. oil-cake. Drift, in a store state, 165 miles.

Two short-horned freemartins, (or twin heifers,) worked and grazed by Henry H. Hoare; have fed on cake since Christmas, and travelled 43 miles to the exhibition.

Two Hereford six-year-old oxen, worked by Mr. Knight, and grazed by Mr. Westcar.

Two Devon seven-year-old oxen, worked and grazed by Mr. Sandford; driven 160 miles to the show.

Two Devon six-year-old oxen, worked and grazed by Mr. Martin Webber; driven 134 miles.

Two Somersetshire seven-year-old oxen, worked twenty days by Mr. Luttrell, and grazed by him; eat no cake; driven 160 miles, when fat.

SHEEP.

Mr. Thomas Ellman, five South-Down wethers; two weighed 139 lb. and 20½ lb. fat, and 132 lb. and 19¾ lb. fat.

Mr. Robson, five two-year-old Cheviot wether carcasses.

Mr. Jones, one three-year-old wether carcase, Leicester and Wilts, 153 lb. and 20¾ lb. loose fat.

Five two-year-old Merino and Ryeland wethers, driven 160 miles, when fat; fed by Lord Somerville.

Five two-year-old wethers of the Merino breed, killed and sent up 160 miles to the show, by Lord Somerville.

Five ewe hogs, belonging to Lord Gage.

Account of extra stock, and of Pigs, not recorded this year.

Adjudication:

OXEN.

The two first prizes for the best yokes of oxen, to Mr. Knight and Mr. Westcar.

The second prize to the Duke of Bedford.

The cup for the best pen of ewe hogs, to Lord Gage.

The cup for the best pen of fat wethers to Mr. Thomas Ellman.

The cup for the pen of Merino sheep, on account of there being no competition, had devolved on Lord Somerville; it was presented to Mr. Joyce, who had been indefatigable in his exertions in manufacturing the Merino wool into cloth.

The cup for the best fat pig, to Mr. Westcar.

Very excellent specimens of fine broad cloth, the produce of wool grown in this country by Lord Somerville and Mr. Tollet, were exhibited; also two pieces of cloth made from Merino fleeces, manufactured by Mr. Joyce; and one piece from Merino lambs' wool, by the same manufacturer, which were particularly admired.

1807. Sixth Year.

JUDGES.

Sir JOHN SEBRIGHT, Messrs. FROST, WALKER, NORTON, and BOND.

OXEN.

Two Sussex oxen, worked and fed by Mr. Coles, consumed 400 oil-cakes each.

Two Sussex oxen, worked by Mr. J. Ellman, and fed by Mr. Woodgate, consumed 1272 oil-cakes.

Two Hereford oxen, worked by Mr. Hankins, and fed by Mr. Terrett, consumed less than 10cwt. of cake.

Two five-year-old Hereford oxen, worked by Mr. T. And. Knight, and fed by Lord Sackville, consumed 1100 oil-cakes; travelled 80 miles.

Two Kent oxen, bred and fed by Mr. Miller, consumed 900 oil-cakes each.

Two six-year-old Hereford oxen, worked by Mr. Watkins, fed by Mr. Westcar, driven 110 miles in store state; consumed 350 oil-cakes each.

Two Somerset oxen, worked by Lord Somerville 82 days, driven 160 miles in store state, and fed by Mr. H. King, jun. consumed 882 oil-cakes.

Two Devon oxen, worked by Mr. Webber, driven 130 miles in store state, and 40 miles when fat, fed by Mr. Chandler, consumed 725 oil-cakes; 88 days work.

Two Devon oxen, worked 80 days by Lord Somerville, driven 160 miles in store state, fed by Mr. Hudson, consumed 1104 oil-cakes.

EXTRA STOCK.

An Italian cow bred in Tuscany, brought to England by Admiral Aylmer, fed by Lord Somerville.

A Sussex ox, fed by Mr. Woodgate.

A Shropshire steer, fed on grains, hay, and wash, by Mr. Rose.

A Devonshire cow, fed by Mr. Trimmer.

A black and white cow, fed by Mr. Tubb.

Two Devon heifers, fed by Mr. Purdy of Norfolk.

Two Highland stots.

A Suffolk cow.

Two heifers, bred and fed by Lord Braybrooke.

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SHEEP.

Five Merino ewe hogs, of pure blood, not one year old, bred by Lord Somerville.

Five South Down ewe hogs, under 12 months, bred by Lord Braybrooke.

Five South Down ewe hogs, from 10 to 11 months old, bred by Mr. Boys.

Five South Down ewe hogs, under 11 months old, bred by Mr. Saxby.

Five South Down ewe hogs, Mr. Finch Hatton.

Five South Down ewe hogs, Earl of Bridgewater.

Five South Down ewe hogs, Sir Thomas Carr.

Five South Down ewe hogs, Mr. Buckingham.

Five ——— ewe hogs, bred by Mr. Runceman.

Five ——— ewe hogs, bred by Mr. Farncombe.

Five South Down ewe hogs, bred by Sir John Sebright.

Five Merino and South Down ewe hogs, bred by Mr. Birkbeck.

Five ewe hogs, Mr. Burgoyne.

Five Merino and South Down wethers, bred by Mr. Tollet; one weighed 101 lb. and 15lb. fat, and one 91 lb. and 17½ lb. fat.

Five ——— two-year wethers, bred by Mr. Seares.

Five South Down wethers, bred by Mr. Druitt.

Five South Down wethers, bred by Mr. Coke.

Five Merino and Ryeland wethers, bred by Lord Somerville; weight of two, 89 lb. 18 lb. of fat—86 lb. 15 lb. of fat.

Five South Down wethers, bred by Mr. Monkton: weight of two, 102 lb. 18½ lb. fat—106 lb. 16 lb. fat.

Five South Down wethers, bred by Mr. Westcar; 86 lb. 10 lb. fat—87 lb. 17 lb. fat.

Five South Down wethers, bred by Mr. Purdy; 113 lb. 23 lb. fat—135 lb. 16 lb. fat.

Five South Down wethers, bred by Mr. Bayley; 107 lb. and 18½ lb. fat—112 lb. and 17½ lb. fat.

Sir William Curtis, Messrs. Sully, Pickford, Wright, Tubb, Boys, Coles, Dodd, and Moseley, were candidates for the Pig prize.

Messrs. Ellman, Paine, Darell, and Sir Thos. Carr's shepherds, were candidates for the shepherd's prize.

The following alteration in the conditions was this year made:

That the prize £.20 for wether-sheep of the short wool, or clothing breed, will be adjudged to the pen of sheep, whose average weight shall not exceed 25 lb. *per* quarter. This alteration reminding us, that each sort of sheep has its appropriate market; and that to render a fine-grained animal a coarse one, consequently worth less *per* pound, is no improvement. They may be the property of the grazier, not of the breeder only, as before.

Adjudication.

OXEN.

The first prize for the best yoke of oxen to Lord Sackville, as the grazier; and Mr. Knight, as the worker of two Hereford oxen; to each a silver cup.

The second prize, to Mr. Westcar as the grazier, and Mr. Watkins as the worker of two Hereford oxen; to each a silver cup.*

SHEEP.

The prize for five Merino South Down sheep, to Mr. Birkbeck, value 30 guineas.

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* These prizes could not have been adjudged to oxen more perfect in shape and in ripeness, more especially to the first yoke fed by Lord Somerville, and bred by Mr. Knight.

The prize for five South Down shearling wethers to Mr C. C. Western, a cup, value 20 guineas.

The third prize for Merino shear-hogs reverting to Lord Somerville, was presented to Mr. Mitford, for his perseverance in carrying the Merino breed to perfection.

The remaining cup was adjudged to Mr. Sully, for his white pig being the best at the show.

An extra cup was delivered to Mr. Farncombe, for his five South Down ewe hogs.

The other extra cup was presented to Mr. Tollet, as a small testimony of the sense entertained of his merit in promoting the Merino breed.

Several useful implements were shewn, and various pieces of fine broad-cloth, manufactured from fleeces of his Majesty's flock, of Mr. Tollet's and of Lord Somerville's, satisfactorily proving the fallacy of those who assert, that the finest cloths cannot be made of wool grown in England. Several skins of leather, of different colours, manufactured by David Giles and Co. from Mr. Tollet's Anglo Merino sheep-skins, in imitation of the Spanish leather, were much admired for their beauty.

1808. Seventh Year.

JUDGES.

Rev. HENRY BATE DUDLEY, Messrs. THOMAS PARKER, RICHARD MADDOX, WILLIAM WATKINS, and JOHN BANNISTER.

OXEN.

Two Hereford oxen, worked by Mr. Wood, fed by Mr. Terrett—80 days work—no corn or cake—drift 110 miles.

Two Devon oxen, worked by Mr. Tapp, fed by Mr. Webber on grass and hay—86 days work—drift 134 miles.

Two Devon oxen, bred and fed by his Grace the Duke of Bedford, worked 85 days, consumed 660 oil-cakes each.

Two Sussex oxen, bred and fed by Mr. Joshua Trimmer—108 days work—consumed 1314 oil-cakes.

Two Devon oxen, worked by Lord Somerville, fed by Mr. Hudson—94 days work—consumed 1050 cakes.

Two Devon oxen, worked by Lord Somerville, fed by Mr. King, jun.—88 days work—cake-fed.

Two Sussex oxen, bred by Mr. Coombe, fed by Mr. Coles—cake-fed—drift 150 miles.

Two Sussex oxen, worked by Mr. Warre, fed by Mr. Waters—had 500 oil-cakes each.

Two Sussex oxen, bred and fed by Mr. Ellman—consumed 500 cakes each.

Two Hereford oxen, bred by Mr. Price, fed by Mr. Westcar.

SHEEP.

Five South Down wethers, 3-year-old, Earl of Bridgewater.

Five South Down wethers, Mr. Henry King, fed on grass only.

Five South Down wethers, bred by Sir Thomas Carr, fed by Mr. Gunning.

Five South Down wethers, the Duke of Bedford.

Five South Down wethers, Mr. Boys.

Five Merino ewe hogs, Lord Somerville.

Five South Down ewe hogs, Mr. Westerne.

Five South Down ewe hogs, Mr. Saxby.

Five South Down ewe hogs, Earl of Bridgewater.

Five ¾ Merino, ¼ South Down ewe hogs, Mr. Fane.

Five South Down ewe hogs, Duke of Bedford.

Five do. do. Mr. Boys.

Five Merino and Ryeland, hogs, Col. David Cunningham.

Five South Down ewe hogs, Sir Thomas Carr.

Five do. do. Mr. Fairncombe.

A pen of Cheviot ewe hogs, bred by Mr. Robson, sent 400 miles alive.

Messrs. Boultbee, Dodd, Baker, Smallbones, Burgoyne, Seabrook, Davis, and Waters, were candidates for the Pig prize.

The shepherds of the Duke of Bedford, Lord Gage, Messrs. Cunningham, Vallance, and Ellman, were candidates for the shepherd's prize.

Extra Stock.

A bull and cow, Galloway breed, Colonel Cunningham.

A black Kylae ox, Sir Harry V. Tempest; with many others, which could not be recorded.

Adjudication.

The first prize for the best yoke of Devon oxen, to his Grace the Duke of Bedford.

The second prize, to Mr. Martin Webber, for the second best yoke of oxen.

The prize for the best pen of South Down ewe hogs, to the Duke of Bedford, cup, value 30 guineas.

The prize for the best pen of South Down wethers, to the Earl of Bridgewater, cup, value 20 guineas.

The prize to Mr. Dodd, for his Suffolk pig.

The cup, on the recommendation of the Judges, was presented to Mr. Terrett, for his oxen fed on grass, hay, and turnips, and regularly worked.

The Judges complimented the owners of the ewe hogs, the Earl of Bridgewater in particular, on their improved condition in frame and wool.

Their Report respecting the shepherds, was as follows, viz. That Charles Payne, shepherd to Mr. Ellman, having raised 799 lambs from 600 ewes, and lost only 21, was entitled to the first prize of £.6.

That Cornelius Gatland, shepherd to Mr. Vallance, having raised 410 lambs from 309 ewes, was entitled to the second prize of £.4.

Some very proper remarks were made by the Judges, respecting several fine oxen which they had been forced to exclude from their consideration, for want of the proper certificates of the work performed; and they recommended a strict adherence to this necessary condition, as the most likely means of selecting a breed of oxen, adapted to the profitable use of the breeder, the grazier, and the public.

An account of Lord Somerville's Spanish wool, clipped in 1807, was given; stating that 769 fleeces of Merino, and Merino and Ryeland wools, sold for £.651, the lambs not included *.

A notice was affixed, of a repository and intended annual auction-sale of Merino wool, &c. in Sadler's yard, in July.

Various implements were, as usual, shown; in particular chaff-cutters and threshing machine—specimens of manufactured goods, from the Anglo Merino wool—specimens of sash line, made of long coarse wool, a manufacture likely to promote the sale of the coarse wool, and, perhaps, obviate in some measure the scarcity of hemp.

Mr. Frederick Smith, of Norwich, exhibited Merino dresses, manufactured from shear-hog Merino wool, of 18 months growth, part of

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* In 1808, 782 fleeces sold for 667*l.* 17*s.*

Lord Somerville's flock, capable of taking any dye; one with the warp or skain of silk, supposed to be superior to any articles ever manufactured in Europe. One pair of worsted stockings, usual size, manufactured from the same wool, which have both at once passed through a lady's ring! A skain of Merino worsted yarn, a pound of which measures more than 46,000 yards, or 27 miles in length.

After stating that Messrs. Smith and Harrington, had of late fed many fine oxen with distillery wash, instead of giving it to pigs, Lord Somerville suggested the propriety of using molasses or treacle, dissolved in water, as an addition to hay, and as a substitute for oil-cake in the feeding of oxen; which would benefit our colonies, at the same time that it would introduce a new and most nutritious food for cattle; and professed his intention of making a trial of it.

The spring wheat-seed, delivered out last year to Earl Winchilsea and others, was stated to have produced 19 fold of good grain, though it certainly was not a proper spring wheat.

1809. Eighth Year.

JUDGES.

Robt. Byng, esq. of Middlesex, Messrs. **Thos. Drewit**, of Surrey, **William Harrison**, of Sussex, **Yale**, of Wiltshire, and **Chandler**, of Buckingham.

Oxen.

Two Devonshire oxen, worked and fed by Mr. Martin Webber, 100 days work, consumed 600 lb. of oil-cake, drift 135 miles.

Two Devon oxen, bred and worked by Mr. Waters, and fed on hay, molasses, and 175 oil-cakes each, worked 95 days.

Two Devon oxen, worked by Lord Somerville, worked 96 days, had 460 oil-cakes, fed by Mr. Henry King, jun. It was admitted that these oxen turned out as complete carcases of beef, as had been seen for many years past in the public markets where they were slaughtered, which was not expected, the severity of their labour considered.

Two oxen, one Devon and the other half Devon and French, worked and fed by his Grace the Duke of Bedford, worked 96 days, had no oil cake.

Two Devon oxen, worked and fed by the Earl of Macclesfield, had 340 oil cakes each, worked 95 days.

Two Hereford oxen, worked by Mr. Lane, fed by Mr. Terrett, had no oil cake, worked upwards of 60 days, drift 114 miles.

Two Yorkshire short-horned oxen, worked and fed by Mr. Alston, consumed 1333 oil cake.

Two Hereford oxen, worked and fed by Mr. Webb Weston, worked 120 days, had no oil cake.

Two Hereford oxen, five years old, worked by Mr. Hardwick, fed by Mr. Peesley, had no oil cake, worked 62 days. It was a matter of regret, that this yoke of oxen had not been worked out their regular period of three years; for symmetry of shape, and for aptitude to feed, they would rarely if ever have been equalled.

They bore a strong resemblance to two 4-year old Herefordshire steers, bred and grazed by Lord Viscount Sackville; that the latter pair had not been regularly worked out, was also to be lamented.

SHEEP.

Five South Down wethers, Mr. Warren, jun.

Five South Down wethers, the Duke of Bedford.

Five Merino and South Down wethers, Mr. Morris Birkbeck.

Five South Down wethers, Dr. Cartwright, fed on sugar, &c. with a view to ascertain whether sugar can be advantageously applied in feeding sheep.

Five South Down wethers, Mr. Warren, sen.

Five South Down ewe hogs, Earl of Bridgewater.

Five South Down ewe hogs, Mr. Boys.

Five $\frac{3}{4}$ Merino $\frac{1}{4}$ South Down ewe hogs, Mr. Morris Birkbeck.

Five South Down ewe hogs, Lord Viscount Gage.

Five Merino and Ryeland ewe hogs, Mr. Cator.

Five South Down ewe hogs, Mr. Western.

Five South Down ewe hogs, Mr. Saxby.

Messrs. Hayward, Cole, Warren, Cornwell, and Waters, were candidates for the pig prize.

EXTRA STOCK.

A bull and two cows, Earl of Darnley.

A white Highland ox, Major Woodgate.

A Sussex steer, four years old, Mr. Coppard, &c. &c.

The carcase of a Dorset lamb, bred and fed by Mr. Harland, Ripley, Surry, 20 weeks old, attracted particular attention from its great perfection.

Adjudication.

The prize for oxen, first, to Mr. Martin Webber, for his pair of the Devon breed.

The prize for oxen, second, to his Grace the Duke of Bedford, for his Devon and half-bred ox.

The prize for ewe hogs, to the Earl of Bridgewater, for his pen of South Downs.

The prize for wethers, to Mr. Birkbeck, for his half-bred Merino and South Downs*.

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* Since this sheet went to the press, we are enabled to state, that the cross betwixt the Merino and Leicester breeds, has been carried into effect by Mr. Hose, of Melton Mowbray; and we hope he will favour the public with the details of his experiment. It has proved very favourable, increasing the value of each sheep over that of new Leicester's, grazed on the same pasture, and treated in every respect in a similar way, fourteen shillings and nine-pence.

Two sheep of this cross, two shear wethers were slaughtered in November, the weight of one was 23 lb.

[illegible] prize for pig[illegible] Hayward, for his Suffolk pig 30 [illegible]

[illegible] prize for [illegible] hogs not being claimed, was [illegible] Mr. William Oakley, for [illegible] zeal in promoting the [illegible] of [illegible] grown Merino wool.

[illegible] cups prepared for those who should best deserve a premium, without having obtained one, was presented to Mr. Waters, for his two 7-years old oxen, which had been worked and afterwards fed on sugar, at not more than half the cost of oil cake for the same purpose.

The other cup, prepared for the same purpose, was presented to Mr. Saxby, for his five South Down ewe hogs.

A compliment was paid by the judges to Mr. Peasley, for his two Hereford oxen, under five years old, but which had not been worked the space of time required.

and of the other 22 lb. *per* quarter, at 7*d*. *per* lb. sold for

		£.5	5
4 Fleeces of wool, at 9*s*. each	—	1	16
28 lb. of rough-tallow, at 9*d*.	—	1	1
2 Skins at 4*s*. each	—	—	8
2 Heads and plucks	—	—	3
		£.8	13

Mr John Boys' [illegible] South Down ewes, eleven months old, were much complimented, indeed so were all the ewes they [illegible]

To Mr. Warren also a compliment was paid, on the perfection of his [illegible] pigs; and the same to Mr. Westerne [illegible], for the pigs respectively shewn by them.

Lest it should universally be supposed by those who merely consume the produce of the earth, without giving themselves any trouble as to the raising it, of which there is a most numerous and formidable body, male and female, in this great metropolis "*fruges consumere nati.*" It must for their information, once for all be stated, that the object of this Spring Show, and of those who attend it, is to establish such decisive proof of what can be done in the progress of animal improvement, without going beyond the bounds of profit or public benefit; and that to bring into this direct channel the meritorious exertions of individuals in this their useful calling, was its immediate and sole aim.

It is an admitted thing, that meat which is to bear salt for any length of time, cannot in reason be too fat; far otherwise is it, with that which is to be consumed in its fresh state. Pork and beef, it has been before stated, are of

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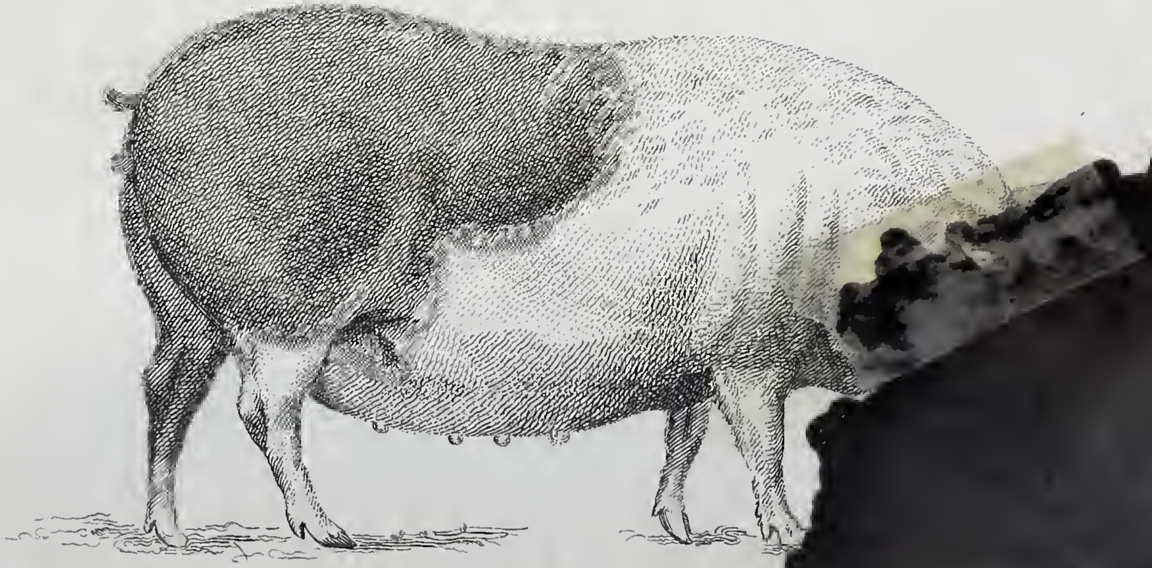

[illegible] which [illegible]ly used in a fat [illegible]re [illegible]e former. Lest, [illegible]refore [illegible] description above [illegible] should have heard, [illegible] are monsters of fat and de[illegible]ve given a representation of a [illegible] Mr. [illegible]esterne's breed, the property [illegible] which may convey some idea, that this race of animals is not altogether an ill-conditioned lump of fat; an accurate eye will easily distinguish, that this sow was within a few days of farrowing.

This representation was the work of only a few minutes, and is an admirable specimen of the skill and truth of character, which Mr. James Ward never fails to express in that which he delineates.

On account of an informality in the Certificates, the adjudication of the shepherd's prizes was deferred till the Duke of Bedford's sheep-shearing of this year.

After the disposal of the prizes, which were distributed at the author's cattle-shew dinner, attended as usual by 340 or 350 persons, from all parts of the kingdom. Alarmed by the unprecedented and exorbitant price of fine wools, he thought it incumbent on him to state his opinion on that subject, which was done in the following words:

"There is not a person who does me the honour to attend this meeting, be his rank or degree be what it may, who does not feel affected by the late extraordinary rise in an article of the most pressing necessity—namely, in clothing goods.

"That increasing impediments would now be thrown in the way of obtaining fine wools from Spain, was to be expected from the state of that country, the provinces to the northward of the capital, in which the shearing of the Merino flocks chiefly takes place, being now either in the actual possession of the enemy, or very much interrupted by them.

The Quantity of Wool imported.

	Lbs.	Average.
In 1805 -	7,041,613	6,319,691
1806 -	5,597,768	
In 1807 -	10,484,027	6,233,087
1808 -	1,982,148	

"The import in 1808 was, in quarters, as follows:

Quarter ending April 5,	1,577,155
July 5,	302,910
Oct. 10,	———
Jan. 5,	102,083

Thus, from the very best information that can be obtained, it appears that, though the quantity received in 1808 falls short of the usual annual importation, yet that, owing to the very large quantity received in the preceding year, the average of these two years is nearly equal to that of the two preceding. The importations for the first part of the year 1808 were nearly the average of usual importations; from which period, the Spaniards having regained possession of their country for a time, ought to have been less impeded in the sale of their wools, just then ready for market. But as the import of the third quarter is stated as nothing, and that of the last quarter not more than the 15th part of the first quarter of 1808, it must be obvious, if such a confirmation were necessary, that there does actually exist a combination of a limited, but atrocious nature.

"That a rise, in proportion to the difficulty experienced in the importation, should be made; that what has long been bought at about 6*s.* *per* pound should now, perhaps, be rendered at 8*s.* was reasonable. An advance of 2*s.* *per* pound might be just; but that more than 20*s.* *per* pound should be thus suddenly demanded, can only arise from speculations, which may, in the outset, fatten a few mercenary wholesale importers, but must end in the ruin of every other party concerned, and for the following plain reasons:—

" Manufacturers of cloth, becoming doubtful of a market for their goods, will pay off a large proportion of their workmen, an immense number of whom, it is said, are already turned out of employ, and these must come to their parishes for support.

" The quantity of cloths cut for use will also be very much diminished, and even now 20,000 tailors are said to be thrown out of work in this city, and solely from this cause.

" In a very short space of time, substitutes will be found for wool. At first, cloths of inferior quality will be worn; cotton will probably be used as the chain or warp of cloths, fustians, Manchester velvets, and some such stuffs, will be resorted to. The natural result of all this must be a reduction in the price of clothing wools, and a consequent diminution in the breed of wool-bearing animals, which will strike at the very existence of factors in wool, and of those clothiers who, falling into this snare, involve their people, with themselves, in one common ruin. In that case, we shall have depend on an article of uncertain importation, [illegible] defence against the severity of our climate, rather than on one of our own profitable growth, and shall be beggared by the support of manufacturing poor thrown on the public.

"The manufacturer cannot be expected to carry on his trade at a loss; in proportion to the price of the raw, must his manufactured article be charged; but in honesty as well as policy they are bound to make no such excessive advance on goods worked up from their existing stock, that is to say, on wool purcased before this shameful speculation was on foot.

"Those who sneered at my predictions, which now, at the end of eight years, have notoriously come to pass, may sneer again; but as effect usually follows the cause, so may this be realized, and speedily. Individual instances of enormous profit have come to my knowledge, as well as the shameful means by which they have been obtained, but I forbear to name them. Trade of every description should be unfettered as long as possible; but men who embark in dangerous combinations of this nature, should bear in mind, that even in a recent case, the legislature was compelled to interfere, and render void bargains which, uncontrouled, would have ruined numberless individuals.

“ I would not omit this particular occasion, collected as we just now are for the purpose of promoting the general benefit, rather than our own individual interest, to manifest my unqualified detestation of this selfish and dangerous monopoly, and to state that, in the sale announced for to-morrow of the largest and most valuable lot of fine-wooled sheep I have ever been enabled to part with, I have no desire to share in profit so unreasonable and ill-timed. Those mixed-breed wools which I have engaged to offer at public auction, must abide the event; as they sold last year at less than their value, so this year they may, perhaps, sell for more; but the more valuable growth shall be sold at the same house, and at the same price as it has produced for some years past.

“ I am at length reluctantly compelled to say some words on the subject of the Merino mutton, which has been served up for some years past at this meeting, and the more so, from the present exorbitant price of Merino wools; because reports tending to bring it into disrepute, have been spread about, and listened to, in many instances, with an attention which they did not [illegible] it, and from a quarter whence, in common decency, they should not have proceeded.

" I believe the majority of Gentlemen present, will give me full credit for saying, that had I not the most perfect conviction of its excellent quality, generally speaking, I should have sought elsewhere for a supply.

" An eminent butcher, in Bond Street, has been often quoted as having said, that the mutton of this breed of sheep was no better than carrion; but as there is no reasoning on taste, and what is palatable to one may be poison to another, no regard was paid by me to what he uttered, although in his extensive practice, as a vender of meat, his opinion must have carried much weight; but when he ventured to assert that this meat was inferior to others, to the amount of three-pence *per* pound, it becomes necessary for me to declare, after much experience on the subject, that such an assertion is absolutely false. General conclusions are never to be drawn from individual cases; and, admitting the fact, that one or two sheep might not have turned out well, this was cause for further inquiries, but not for universal condemnation.

" It would be the excess of injustice to cry down one of the best breeds of sheep which we know on the surface of the earth, the South Down, merely because they turn out sometimes so yellow as to be unsaleable, except at reduced prices.

" It is well known, that all the wethers which I have fed off for several years past, to the amount of some hundreds, with the exception of a few sent to London, have been retailed at Taunton market, on my own account, and, on the average, have produced one-penny *per* pound above the prices of other mutton ; that, large as the supply was on each day, it was bought up with an avidity that was remarkable, was generally bespoke on the previous market-day, and was actually purchased on commission, and sent off by coaches to the adjacent counties, an instance of preference that, perhaps, has rarely occurred before ; this continued to be the practice until the day that my stock quitted that county. Some few have been sold in this city, by Mr. Henry King, of Newgate-market, whose books will prove what the demand for it is ; and Messrs. Thomas Leyburn, Garment, &c. confirm that it is held in the highest estimation.

“ The supply for this annual dinner was five sheep; but, for the two last seasons, when the mutton of the pure and unmixed Merino breed only was served up, the demand for it has been such as to cause a request from this house that the number of sheep might be increased to eight, in place of five.

“ The Duke of Bedford, with that liberality which marks every act of his life, knowing the effect produced by these misrepresentations, being in the breed of South Downs, has (unsolicited by me) sent, together with a Merino sheep, which breed he keeps solely for the use of his own table, a note, which I beg to read:

“ ‘ *Woburn-Abbey, Feb.* 28.

“ ‘ My Dear Lord,—I have to ask of you to excuse the liberty I have taken in sending you a wether of pure Merino blood, three years old, weight of the carcase, 43 lb.

“ ‘ I am aware that there is no small prejudice against this mutton, and from no less authority than an eminent butcher in Bond Street; but, from the little experience I have had, from the wethers I have killed here, I can pronounce the mutton to have proved uniformly good, and I have not the smallest doubt, that if you should think fit to feed any mutton epicures with any part of this sheep, *calling it Welch, or Scotch* that it will be called *excellent mutton*.

" 'BEDFORD.

" 'N. B. The sheep was killed yesterday.'

" The importance of this race of sheep, in reference to our manufactures, is so great at this moment, that I held it to be my duty to be thus prolix on the subject *.

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* Nothing can be more painful than to prefer a complaint of this nature against any individual; it would give additional pain if this public memento should be at all injurious to him in his profession; but, for the reason already given, it could be no longer avoided.

That an ewe sheep might be strong in flavour, is natural enough, when it is considered how scarce the breed has been in this country; that very few cases indeed could occur where the lambs were not suffered to run as rams, to the age of six months, and, consequently, that a rankness might have been found in them, compared with clean wether mutton. Much as this was to be expected, the author can conscientiously declare that, after all the questions he has himself, and, what is more to the purpose, by others asked, he could never, except in one instance, when the author purchased of the above-mentioned butcher a saddle of mutton, said to be of the breed, which certainly was rather rank, (and probably from the cause before stated,) truly

At the conclusion, Sir John Sinclair, the Pre- dent of the Board of Agriculture, rose, and after complimenting the Author on the zeal and ability with which he had espoused the cause of

ascertain that this mutton was otherwise than palateable and excellent meat. "Gales," as they are termed, always bear a very inferior price to wethers, on this account, as mutton; so it is with cattle of every breed: bull-stags, or gales, are not marketable as prime beef.

In proof of the validity of this dislike, the same butcher, (or rather his son, who certainly is a perfect judge of his business,) within these few days, purchased some carcases of the mixed Merino sheep, in Newgate-market, and has since actually desired to have more of the same sort, because they were so much approved of; it is a question if this fact is known to him at this moment, yet, whimsical as it is, it is no less true.

The utmost liberality and fair dealing has been evinced by every other person in the profession, with whom the author has had converse from the time he first brought these sheep to market until this day. The author can vouch for the wether mutton being most excellent at two and three years old, and that it has been purchased with corresponding avidity; at that period we draw the greatest return from the sheep, and consequently he has never kept them longer. When kept to a greater age, he cannot vouch that they may be equally good.

In saying thus much in recommending these sheep, at two and three years old, the reader must be cautious not to mistake this for a preference of young and imperfect, to

introducing the Merino breed of sheep into th
country, making himself journeys to Spain fo
the purpose of selecting and importing those
valuable animals into this country, said, that he

full grown and, consequently, perfect animals. This race of sheep being small, attains its full growth early, and therefore comes sooner to perfection.

There is no topic on which prejudice runs higher than in this; in ordinary cases it would be impolitic to contend with it; in this case, which is a matter of taste, and where that capricious organ the palate is to decide, it would be folly. We do know that ripened youth is less hard and tough than old age; neither in the animal, or in the vegetable world, are we aware of any exception to this rule but that of mutton, and we do not see that it has any better claim, in reason and common sense, to be excepted, than the rest. A fundamental error seems to have given the law in this matter; people have fancied that the mutton of old sheep must be old meat, because the sheep were so; not adverting that the change of these sheep from scanty keep to a full bite, and from poor pasture to rich, has such an effect upon them that, unless broken-mouthed and very much injured in their teeth, they are, as it were, suddenly clothed with new flesh and blood, and, instead of the old, it is the new mutton which is so much esteemed. Nature and reason would dictate this to us, but it is treason to say so.

A laughable instance of this nature occurred, some years ago, at Woburn-Abbey, when the late Duke of Bedford, willing to know to what length prejudice might be carried, ordered a sheep to be killed for the house consumption;

[illegible]uld not omit this opportunity of declaring his opinion, that sheep of the Merino breed, while their wool is so excellent, also produce as good mutton as any exhibited on our shambles. Sir John next proceeded to notice, in terms of high commendation, his exertions for opposing the impositions of unprincipled speculators in this staple article of British manufacture; and

one of his guests, a very knowing man on the turf, decided that it was a Leicester ram of a year old, and pale-coloured, execrable stuff. The sheep was open in the grain, not remarkable for flavour, and the gravy pale, and thin as water; it was not, however, a Leicester ram, but actually an old Welsh sheep, which had run in the park for several years, in order to come to table in the greatest supposed perfection. In another instance, a butcher, who serves many of the first families in London, was cautioned severely on the subject of his mutton, and told, that it had certainly been good hitherto, but that if any of the Kentish oil-caked mutton was sent to them, (that is to say, South Down and Romney Marsh mutton, fed on turnips, with which oil-cake is is given, and with great profit to the farmer,) that he should lose their custom: now, said he, "God love them, they have been eating nothing else these two months past." So much for prejudice!

In adapting this race of animals to our climate, and to our prejudices, there were bad properties to correct, good ones to be encouraged, and difficulties enough to be encountered, without having recourse to idle clamour and misrepresentation.

he concluded a neat and impressive speech, by proposing as a toast—

> "May idle speculators never fleece the industrious of this country!"—

which was drank with great enthusiasm *.

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* It might appear that the author has gone somewhat out of his way, to censure a combination in Spanish wool, which must inevitably be attended with the most baneful effects to those engaged in our manufactures. That it has excited the general indignation, is well known; but it is personally an object to him, because he has expended very great sums of money, and incurred much trouble in importing to this country Merino sheep. If he has expressed himself strongly, he has done so because he scorned to share in profits drawn from the ruin of the discharged manufacturer, and from the very bowels of his family starving for want of bread.

This caution was not premature, for although he took the earliest occasion of making his opinion public, yet he has now reason to know that this charge had already been thrown out against him: no other reason need be alleged in his defence, if any had for a moment been thought necessary. Whilst this paper is going to the press, a letter from one of the first manufacturers, in the West of England, decides, in few words, the fate of this ruinous monopoly: he says—" May 22, 1809. The clothiers are doing little or no business; they have reduced the price of cloths eight shillings *per* yard, yet the demand is nothing."

The Directors of the Bank of England, with an uprightness and dignity worthy of themselves, are said to have re-

Some alterations having been adjudged advisable in the distribution of prizes at the Spring-Cattle Show, it may be of use to give a copy of the conditions to be observed henceforth.

To be given annually, so long as shall be thought advisable, on the Monday and Tuesday nearest to the 1st of March, a piece of plate, value 30*l.* to the best, and a piece of plate, value 20*l.* to the second best, yoke or pair of oxen, which shall have worked together in yoke or harness, for the space of three years previous to their being turned up to grass *: aged from

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fused to discount any bills whatever connected with the trade and monopoly of foreign wools. The reproof, and the odium which must attach to those who have lent themselves to this traffic, cannot be parried; it must speak for itself.

* It is become necessary to establish the same regulations with respect to the certificates of the oxen which have worked in threshing-mills, as are constantly adhered to in the countries where oxen are usually brought to labour. At the early age of two or three years, they are there paired, and are never afterwards separated. It has long been the practice to yoke up two, the good properties of one of which must help off his mate, generally a steer inferior in value. The practice is bad in itself, but it is not probable that we can prevail on the breeder to alter it. When four or six steers thus classed, are put to work in a circular mill, or "round robin," as it were, these dis-

five to eight years, weighing from one hundred to one hundred and eighty stone, eight pounds to the stone, that is, from ten to eighteen score *per* quarter, being the size best adapted to labour, and to the average of markets. They will be let up from work between the 20th and 30th of May 1809, and shown at Sadler's Repository in Goswell Street, near Smithfield, on Monday and Tuesday, the 5th and 6th of March following, being a period of nine months, more or less.

The order, as to flesh, in which these oxen are on New-Year's-Day, and the number of days work done between that time and the 20th of May, must be specified. Due allowance will be made for distance of drift from any part of the kingdom, both in the lean and fat state.

It must be warranted, that they have had no

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tinctions are lost, and the two best of them may be taken to feed off as a pair. Justice, therefore, to all the claimants of these prizes, demands that, in future, notice must be given of the two oxen intended to be grazed, and must be signed by two respectable neighbours, who shall certify the same. This notice, for the March Show of 1810, would be of no avail, the oxen being now grazing for that exhibition; but, for the year 1811, one year's notice must be given; for the year 1812, two years' notice; and ever afterwards, the same notice of two years must continue.

[illegible] of any description; that the straw, if any given when feeding, was carefully cleaned of corn; that they have had no beans, boiling pease, buck-wheat, or potatoes (turnips are not included in this exception). What quantity of oil-cake has been given, must be accurately stated, that due allowance may be made. If the least fault should be discovered in any certificate, the person so offending will be set aside, and deemed disqualified ever afterwards.

This prize is designed to countenance farmers in their usual course of profitable husbandry, rather than those who, forgetful of general benefit, are ambitious of keeping on cattle too long after they are ripe.

The increased value of fine wools, and the extreme difficulty of bringing into the same competition, the English breeds of short-wool sheep with those which have any admixture of the Merino blood, now, more than ever, an object of the most imperious necessity to the clothing manufacture of these kingdoms, render it necessary to make an alteration in the prizes respecting them. The form of our English breeds advances rapidly towards perfection; whilst, in the Merino, great as the improvement in their form has been, a very great deal remains yet to be effected. Instead, therefore, of the three prizes, as they formerly stood, viz. a [illegible] value 30*l.* to the best pen of ewe hogs; another of 20*l.* to the best pen of wethers; and a third, of 10*l.* to the best pen of ewe hogs of the pure Merino blood; there will be four prizes as follows:

At the same time and place will be given, to those who produce, in fair store-state, the best pen of five ewe hogs, not in lamb, of any short-wool breed of British origin, a piece of plate, value 15*l.*

A piece of plate, value 15*l.* to the best pen of fat wethers, of any short-wool breed of British origin, whether horned or natt, four or six-tooth sheep.

A piece of plate, value 15*l.* to the best pen of ewe hogs of Merino blood, crossed on any of the above, of any degree of admixture (the pure Merino breed excepted).

A piece of plate, value 15*l.* to the best pen of wethers of the same admixtures, subject, in other respects, to the conditions hitherto established and acted on, that is to say, the ewe hogs not exceeding thirteen or less than ten months old when shown. The prizes for wethers, will be adjudged to the pen of sheep whose average weight shall not exceed 25 lb. *per* quarter. This will bring to our recollection, [illegible] each sort of sheep has its appropriate market, and that, to render a fine-grained a coarse one, consequently worth less *per* pound, is no improvement. They may be the property of the grazier, not of the breeder only. This age is preferred, because it does not exclude those flocks which work in the fold, yet it obliges them to come to market at a period when their growth ought to be perfect. Quality of carcass, aptitude to fatten, quantity and quality of wool and meat *per* acre, to be considered. By "store state," it is meant that sheep are not to be taken from the flock more than ten days before the commencement of their journey, or forced beyond the average keep of the flock. Strict certificates will be required, as to the keep and time of lambing, for the ewes; as to time of lambing, duration of work in the fold, and period of feeding, as well as quality of food, for the wethers. Five umpires will be chosen for each of these prizes. No person to be admitted as an umpire who is personally interested in the event. No person gaining a prize, is qualified to exhibit stock for the same prize the succeeding year.

The prizes for oxen will be divided between the grazier and the farmer who possessed these oxen during the last twelvemonth's work. The prize for the ewe hogs will be given to [illegible] breeders only. The two pair or yoke of oxen to which these premiums shall be adjudged, are not to be slaughtered with the axe, but "laid," or pithed, according to the usage of other countries, for which purpose a skilful person will attend, at the convenience of the purchasers. —Without entering into a comparison between the two methods, let it be remembered, that public prejudice is very strong in favour of the mode here proposed; and where prejudices can be indulged without difficulty or loss, it is wisdom to indulge them. The prize oxen are to be killed within three days after the Show, namely, on or before the Friday night.

Two pieces of plate will also be given by Lord Somerville, to those who may have best merited premiums without obtaining them.

Another piece of plate will be given to the owner of the best fat pig, of any age.

Ten pounds will be given to the shepherds who shall rear the greatest number of healthy lambs from a flock of ewes, not less than 100, of any breed, whether short or long-wool sheep; six pounds to the first, and four pounds to the second successful claimant.

Implements of husbandry, on a new or well-approved construction, and samples of grain [illegible]ds, will be admitted; for which, as well [illegible] for the stock, proper places are allotted, on [illegible] notice given. The stock to be sent in be[illegible]re seven o'clock on Monday morning.

A sale will take place on the Wednesday morning of the Show, at eleven o'clock, for choice lots of sheep, of superior quality, of all descriptions. Notice to be given to Lord Somerville, ten days previous to the day of sale, by those who intend to offer stock.

Working oxen here exhibited, which are to be fed for the Show of 1810, will not be required to return to work should the distance exceed forty miles, but may then be let up.

One article only of each description, or class, is to be shown from the same person's stock. Joint occupiers of stock to be considered as one, in point of qualification.

A lot of sheep shown dead, skin, rough fat, head, and legs, exhibited, will be considered as strictly qualified for the premium, distance of delivery exceeding 110 miles.

A few Merino rams of pure blood, and of improved shape, will annually be disposed of on the Second Day's Show.

Lord Somerville begs leave to add, that being unable to accommodate more than 300 at dinner, on Tuesday the 6th of March, when these prizes will be distributed, he trusts his [illegible] will attribute their absence to this cause alone

Claimants for these prizes are requested to give notice to Lord Somerville, one month previous to the day of Show; and will not fail to send in their stock at, or before, seven o'clock on Monday morning.—After nine o'clock, none will be admitted. The gate will be open, for inspection of stock, at ten o'clock each day.

Before the subject is dismissed, the opportunity cannot be resisted, of stating that this exhibition has been most kindly received by the public, of all ranks and degrees, and supported beyond the author's most sanguine hopes; converting thereby, what might have been a trouble, into a pleasure.

It remains again to lay in our claim for the public indulgence, in offering to its notice these details; limited as they may be, they are the result of laborious investigation, and, in this age of speculation and theory, may, perhaps, find favour in the eyes of those who have been fellow-labourers in the vineyard.

It behoves him, also, to make known, that the author has fortunately the means of bringing to the test of proof, many questions relating to the properties of the soil. He has allotted about fourteen acres of light sandy soil, and nearly an equal [illegible] of clay land, to such experiments as [illegible]ly and directly conducive to profit; for [illegible] as do not clearly lead to this result, he [illegible]s to belong to the gardener and to the bota-[illegible]t, and are not for a moment to be admitted o[illegible] farm, where substantial and profitable produce is the only thing that ought to be looked to.

These pieces of land will be placed under the immediate direction of a gentleman residing near at hand, who has made farming his amusement, and medicine and chemistry his profession; his efforts will be given in aid of any questions tending to elucidate the connection of chemistry with the cultivation of the soil, in ascertaining the most œconomical and profitable modes of raising the various productions of husbandry, in registering the quantity of produce *per* acre, and, in short, in endeavouring correctly to ascertain any question relating to the great and important art of husbandry, in all its branches. At fit seasons of the year, access will not be denied, on proper application, to such as may think these trials worthy of inspection.

The following TABLES are inserted; they were first published by us about twelve years ago.

TABLE FOR THE EQUALIZATION OF DIFFERENT WEIGHT.

Scores.	Stones, at 14 lb.		Stones, at 8 lb.		Scotch Stones, 16 lb.		Hundred, 112 lb.		
	St.	lb.	St.	lb.	St.	lb.	Cwt.	qrs.	lb.
20 equal	28	8	50	0	25	0	3	2	8
25 ..	35	10	62	4	31	2	4	1	24
30 ..	42	12	75	0	37	4	5	1	12
35 ..	50	0	87	4	43	6	6	1	0
40 ..	57	2	100	0	50	0	7	0	16
45 ..	64	4	112	4	56	2	8	0	4
50 ..	71	6	125	0	62	4	8	3	20
55 ..	78	8	137	4	68	6	9	3	8
60 ..	85	10	150	0	75	0	10	2	24
65 ..	92	12	162	4	81	2	11	2	12
70 ..	100	0	175	0	87	4	12	2	0
75 ..	107	2	187	4	93	6	13	1	16
80 ..	114	4	200	0	100	0	14	1	[illegible]

TABLE OF [illegible]RICES.

Scores at	3¼d.			3½d.			3¾d.			4d.			4¼d.			4½d.			4¾d.			5d.			5¼d.			5½d.			5¾d.			[illegible]			6			[illegible]			[illegible]			[illegible]			[illegible]		
	l.	s.	d.	l.	s	d.	l.	s.	d	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	0	5	5	0	5	10	0	6	3	0	6	8	0	7	1	0	7	6	0	7	11	0	8	4	0	8	9	0	9	2	0	9	7	0	10	0	0	10	5	0	[illegible]	[illegible]	[illegible]	[illegible]	3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	0	10	10	0	11	8	0	12	6	0	13	4	0	14	2	0	15	0	0	15	10	0	16	8	0	17	6	0	18	4	0	19	2	1	0	0	1	0	10	1	1	[illegible]	1	2	6	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	0	16	3	0	17	6	0	18	9	1	0	0	1	1	3	1	2	6	1	3	9	1	5	0	1	6	3	1	7	6	1	8	9	1	10	0	1	11	3	1	12	6	1	13	9	1	15	0	[illegible]	[illegible]	[illegible]
4	1	1	8	1	3	4	1	5	0	1	6	8	1	8	4	1	10	0	1	11	8	1	13	4	1	15	0	1	16	8	1	18	4	2	0	0	2	1	8	2	3	4	2	5	0	2	6	[illegible]	[illegible]	[illegible]	[illegible]
5	1	7	1	1	9	2	1	11	3	1	13	4	1	15	5	1	17	6	1	19	7	2	1	8	2	3	9	2	5	10	2	7	11	2	10	0	2	12	1	2	14	2	2	16	3	2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20	5	8	4	5	16	8	6	5	0	6	13	4	7	1	8	7	10	0	7	18	4	8	6	8	8	15	0	9	3	4	9	11	8	10	0	0	10	8	4	10	16	8	11	5	0	11	13	[illegible]	[illegible]	[illegible]	[illegible]
25	6	15	5	7	5	10	7	16	3	8	6	8	8	17	1	9	7	6	9	17	11	10	8	4	10	18	9	11	9	2	11	19	7	12	10	0	13	0	5	13	10	10	14	1	3	14	11	[illegible]	[illegible]	[illegible]	[illegible]
30	8	2	6	8	15	0	9	7	6	10	0	0	10	12	6	11	5	0	11	17	6	12	10	0	13	2	6	13	15	0	14	7	6	15	0	0	15	12	6	16	5	0	16	17	6	17	10	0	0	[illegible]	6
35	9	9	7	10	4	2	10	18	9	11	13	4	12	7	11	13	2	6	13	17	1	14	11	8	15	6	3	16	0	10	16	15	5	17	10	0	18	4	7	18	19	2	19	13	9	20	1	4	0	14	7
40	10	16	8	11	13	4	12	10	0	13	6	8	14	3	4	15	0	0	15	16	8	16	13	4	17	10	0	18	6	8	19	3	4	20	0	0	20	16	8	21	13	4	22	10	0	23	6	8	0	16	8
45	12	3	9	13	2	6	14	1	3	15	0	0	15	18	9	16	17	6	17	16	3	18	15	0	19	13	9	20	12	6	21	11	3	22	10	0	23	8	9	24	7	6	25	6	3	26	5	0	0	18	9
50	13	10	10	14	11	8	15	12	6	16	13	4	17	14	2	18	15	0	19	15	10	20	16	8	21	17	6	22	18	4	23	19	2	25	0	0	26	0	10	27	1	8	28	2	6	29	3	4	1	0	10
55	14	17	11	16	0	10	17	3	9	18	6	8	19	9	7	20	12	6	21	15	5	22	18	4	24	1	3	25	4	2	26	7	1	27	10	0	28	12	11	29	15	10	30	18	9	32	1	8	1	2	11
60	16	5	0	17	10	0	18	15	0	20	0	0	21	5	0	22	10	0	23	15	0	25	0	0	26	5	0	27	10	0	28	15	0	30	0	0	31	5	0	32	10	0	33	15	0	35	0	0	1	5	0
65	17	12	1	18	19	2	20	6	3	21	13	4	23	0	5	24	7	6	25	14	7	27	1	8	28	8	9	29	15	10	31	2	11	32	10	0	33	17	1	35	4	2	36	11	3	37	18	4	1	7	1
70	18	19	2	20	8	4	21	17	6	23	6	8	24	15	10	26	5	0	27	14	2	29	3	4	30	12	6	32	1	8	33	10	10	35	0	0	36	9	2	37	18	4	39	7	6	40	16	8	1	9	2
75	20	6	3	21	17	6	23	8	9	25	0	0	26	11	3	28	2	6	29	13	9	31	5	0	32	16	3	34	7	6	35	18	9	37	10	0	39	1	3	40	12	6	42	3	9	43	15	0	1	11	[illegible]
80	21	13	4	23	6	8	25	0	0	26	13	4	28	6	8	30	0	0	31	13	4	33	6	8	35	0	0	36	13	4	38	6	8	40	0	0	41	13	4	43	6	8	45	0	0	46	13	4	1	13	4
85	23	0	5	24	15	10	26	11	3	28	6	8	30	2	1	31	17	6	33	12	11	35	8	4	37	3	9	38	19	2	40	14	7	42	10	0	44	5	5	46	0	10	47	16	3	49	11	8	1	15	5
90	24	7	6	26	5	0	28	2	6	30	0	0	31	17	6	33	15	0	35	12	6	37	10	0	39	7	6	41	5	0	43	2	6	45	0	0	46	17	6	48	15	0	50	12	6	52	10	0	1	17	6
95	25	14	7	27	14	2	29	13	9	31	13	4	33	12	11	35	12	6	37	12	1	39	11	8	41	11	3	43	10	10	45	10	5	47	10	0	49	9	7	51	9	2	53	8	9	55	8	4	1	19	7
100	27	1	8	29	3	4	31	5	0	33	6	8	35	8	4	37	10	0	39	11	8	41	13	4	43	15	0	45	16	8	47	18	4	50	0	0	52	1	8	54	3	4	56	5	0	58	6	8	2	1	8

ERRATA.

Page 63, sixth line from the bottom, after " put," read, " up to fatten.'

Page 85, fifth line from the top, for 77 read 27.

Page 126, insert: ⁂ " In the account of the expences of the four oxen, the price of the turnips is undercharged, whilst the hay is rated too high for a common average ; this will make a trifling difference in the statement there offered."

Page 159, second line from the bottom, after " horse," add, " or ox."

THE END.

Harding and Wright, Printers, St. John's-Square, London.